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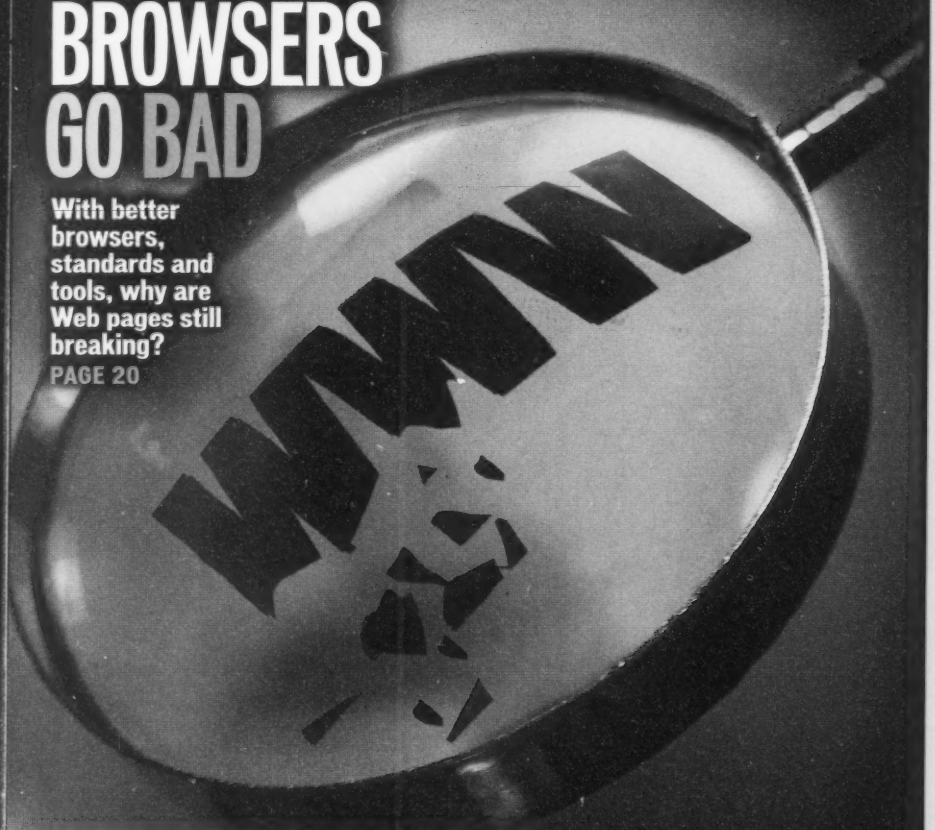
WHEN GOOD BROWSERS GO BAD

With better browsers, standards and tools, why are Web pages still breaking? PAGE 20



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APRIL 13, 2009
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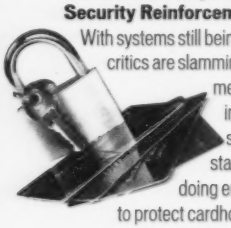

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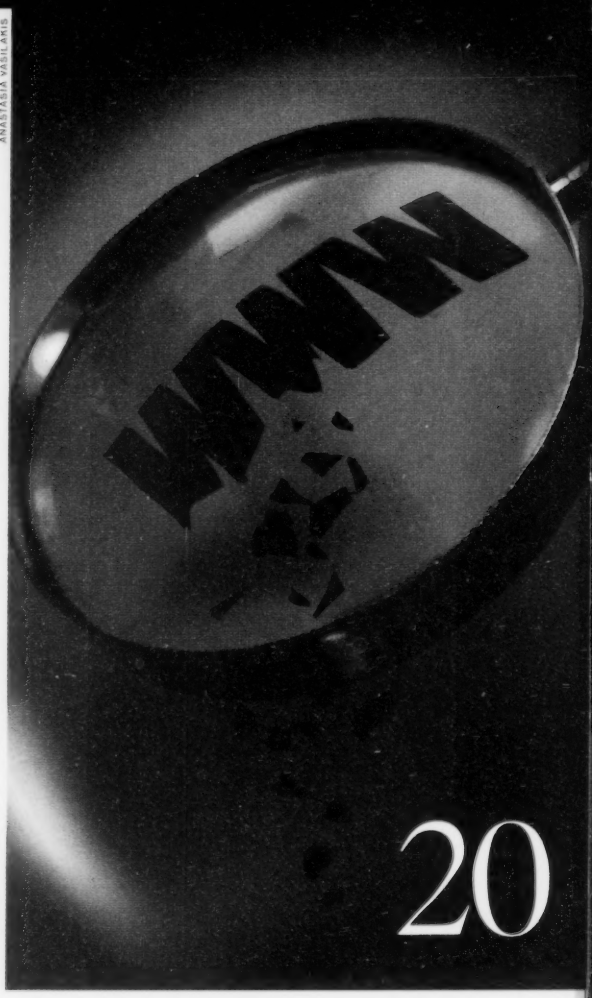

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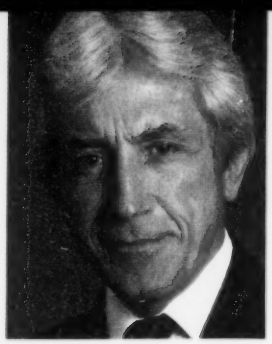
■ EDITOR'S NOTE

Don Tennant

Changing Behavior



OVER DINNER at a steakhouse in Orlando last week, two other guys from *Computerworld* and I found ourselves engaged in a lively conversation. No, we weren't talking about the NCAA basketball championship or Major League Baseball's opening day.

We were discussing our various middle-age ailments and the health issues our parents had faced. Talk about embarrassing.

Still, it was interesting. One of my colleagues mentioned that his mom had smoked for decades, finally quitting cold turkey when the price of cigarettes hit $5 per pack. Many of us can probably tell similar stories with the same moral: Sometimes it takes an economic incentive to get us to make changes that we know are in our best interest but can't manage to make on our own.

That conversation was fresh in my mind the next morning when Andres Carvallo, CIO at Austin Energy, was giving the opening keynote speech at our Storage Networking World conference. At one point, Carvallo touched on the economics of power consumption. "The cheapest dollar you can spend on energy," he said, "is a dollar spent on conservation."

Now, if that's the case, why isn't energy conservation in the data center a higher priority than it is? Green IT has become a mainstay topic at practically every IT conference around, but real change in the data center still seems conspicuously elusive.

I discussed this topic a year ago with Andrew Fanara, who authored the Environmental Protection Agency's August 2007 report to Congress on server and data center energy efficiency. The report concluded that data centers accounted for 1.5% of electricity consumed in the U.S., but even that may have been understated.

In an e-mail last week, Fanara noted that the 1.5% figure incorporated a low estimate of the electricity consumed for data storage. And although the EPA hasn't updated its figures, Fanara said information from users suggests that there has been no decline in data centers' demand for power despite the recession, and that the 1.5% figure is inching up.

■ Here we are a year later, and sure enough, unprepared data center managers are squirming.

It was also about a year ago that I wrote of my conversation with Donnie Foster, CEO of power management provider Power Assure, about the prospects for government regulation of data center power consumption. He recounted a conversation he had with an official at the Department of Energy.

"I asked him, 'Why aren't you guys looking at regulation?' " Foster told me at the time. "He said, 'Right now, don't even talk about it. After the election, we will have some discussions.' He thinks there will be some changes after the election because he assumes the Democrats will come in, and at that point they'll be much more interested in trying to regulate." My own conclusion, as I wrote back then, was that "regulation is going to happen. That's not necessarily a bad thing. But being unprepared for it is."

So here we are a year later, and sure enough, unprepared data center managers are squirming. As *Computerworld*'s Patrick Thibodeau reported last week, President Obama seems committed to a cap-and-trade energy plan that would, in effect, impose a carbon tax on some forms of energy, including coal-fired electricity. Given the percentage of electricity consumed by data centers, the consequences for IT shops could be severe.

Unfortunately, that is what it will take to bring about change. Just as the prospect of lower health care costs has never been a compelling motivator for people to quit smoking, the promise of lower IT costs yielded by energy conservation has yet to make any meaningful impact on data center power usage.

The problem is that our consumption of energy is, ultimately, a behavioral thing. And we as individuals and corporations have demonstrated a stubborn reluctance to change our behavior unless we're forced to pay a high, direct price if we don't. Of course, there is some consolation in that there are far higher prices to pay than can be counted in dollars. ■

Don Tennant *is* Computerworld's *senior editor-at-large. You can contact him at don_tennant@computerworld.com, visit his blog at* http://blogs.computerworld.com/tennant, *and follow him on Twitter at* http://twitter.com/dontennant.

RESPONSES TO:

Gone but Not Forgotten: 10 OSs the World Left Behind

March 25, 2009

OS/2 by IBM was a very efficient operating system. It was fast even on the older processors and it could run anything that you installed on it. If an app crashed, it was the only thing that crashed. The operating system remained running and recovered nicely. If you were the developer you could even get dumps to help you understand why the app failed. It's too bad IBM couldn't market the thing properly. It would have been a Microsoft beater.
■ **Submitted by:** *Bill Stewart*

I definitely miss the Amiga. I still have an expanded 2000 and a stock 3000 that I turn on from time to time.

I don't miss CP/M. In college I lost hours of coding when someone switched floppy disks and the system refused to save anything anywhere.
■ **Submitted by:** *Ken Jennings*

Without doubt it's the Amiga. I put a 68020 in mine and used it for programming all the way to my bachelor's and on into my short lived shot at a master's. Not only was it a great system, but the C compiler was directly compatible with those at both colleges. I could program at home and then upload the source code into the computers at school and recompile. It was far faster than my 486 when it came to number crunching. The only things faster when doing Fourier transforms were the Sun workstations at CMU.
■ **Submitted by:** *RDHalstead*

It has to be VMS (Virtual Memory System) running on the VAX (Virtual Address eXtended) hardware from DEC (Digital Equipment Corp). It was a multi-user, multiprocessing virtual memory-based OS designed for use in time sharing, batch processing and real time computing. It ran in megs of memory, not gigs.
■ **Submitted by:** *Anonymous*

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See what happens when IT is left on the sidelines when a technology-based firm is acquired.

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Antispam services are already adept at scoring a sender's reputation. Now the idea is to use that technique in firewalls and other perimeter defenses.

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Automating the delivery of high-volume documents such as invoices, financial statements and letters can yield high – and immediate – payback.

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News Digest

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THE WEEK AHEAD

TUESDAY: Microsoft's monthly batch of security fixes is due, as is Oracle's latest quarterly patch release.

TUESDAY: Sun plans to announce servers based on Intel's Xeon 5500 chip. Intel's first-quarter results are also on tap.

THURSDAY: *Computerworld* and sister publication *InfoWorld* host a virtual conference on virtualization technology.

THURSDAY: Google is scheduled to report its Q1 earnings.

AP PHOTO / PAUL SAKUMA

IT INDUSTRY

Sun's Future Plans Unclear After IBM Talks Break Down

AFTER THE apparent collapse of acquisition talks between IBM and Sun Microsystems Inc., Sun faces a choice: continue looking for a buyer, change its management — or just keep plugging along as is.

Other companies seen as possible bidders for Sun include Cisco Systems Inc., which is trying to move into the server business; Fujitsu Ltd., which makes servers based on Sun's Sparc technology; or Hewlett-Packard Co., IBM's top server rival.

Meanwhile, there were rumors last week that Sun CEO Jonathan Schwartz could be replaced by chairman and co-founder Scott McNealy, who gave up the CEO job to Schwartz four years ago. But Schwartz was his protégé, and McNealy has publicly supported his successor's strategies.

Even if those rumors are off base, Schwartz has "a lot riding on showing growth or an exit strategy" for Sun, said Forrester Research Inc. analyst James Staten. Thus far, "neither one has come through," he added, pointing to Sun's 11% year-to-year revenue drop in the quarter that ended in December.

In the spirit of pretending that nothing happened with IBM, Sun this week is scheduled to detail new systems that use the Xeon 5500 processor released by Intel Corp. late last month. In addition, Sun is expected to ship a 16-core Sparc processor called Rock later this year — more than 12 months behind its original delivery schedule for that chip.

But with all the uncertainty surrounding Sun's future, the big question is whether corporate users will continue buying new hardware from the company.

Because of the difficulty involved in switching to other technologies, some customers will keep investing in Sparc systems if they need to add processing capacity, said Nathan Brookwood, an analyst at Insight64 in Saratoga, Calif.

But Staten said that even before the acquisition talks began with IBM, many Sun users were thinking about Linux and x86 systems as alternatives to Sparc machines running Solaris. Changing platforms "is a center-of-mind question every three months among Sun customers," he said.

And the economic recession is only making it harder for Sun to win server sales, according to analyst Judith Hurwitz at Hurwitz & Associates in Newton, Mass. "In down markets," she said, "people run for safety."

— Patrick Thibodeau

MANAGEMENT

Sallie Mae to Reverse Course On Offshoring

Student loan provider Sallie Mae Inc. last week announced that it will return its offshore operations to the U.S., along with about 2,000 IT, call center and operations support jobs.

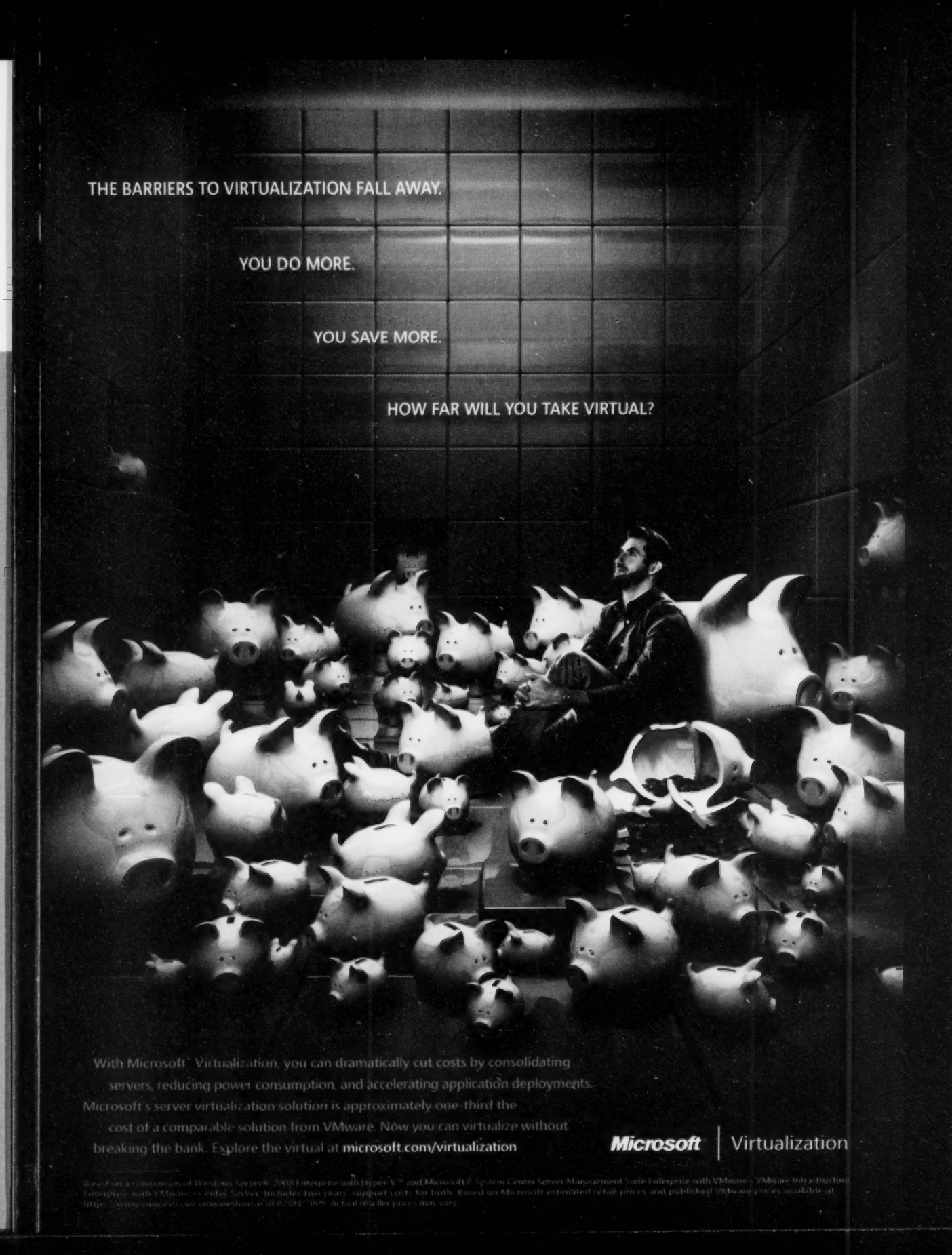
Reston, Va.-based Sallie Mae said it expects to complete the reverse-offshoring move within 18 months.

"The current economic environment has caused our communities to struggle with job losses," CEO Albert Lord said as part of the announcement. "They need jobs, and we will put 2,000 of them into U.S. facilities as soon as we possibly can."

Sallie Mae shifted work to India, the Philippines and Mexico in late 2007 and early 2008. According to various media reports, Lord said the return to the U.S. would increase annual costs by $35 million at the lender, which is fighting student loan changes proposed by President Barack Obama.

– PATRICK THIBODEAU

■ **Sallie Mae has loan and call centers in Bangalore and Pune, India, and the Philippine city of Baguio.**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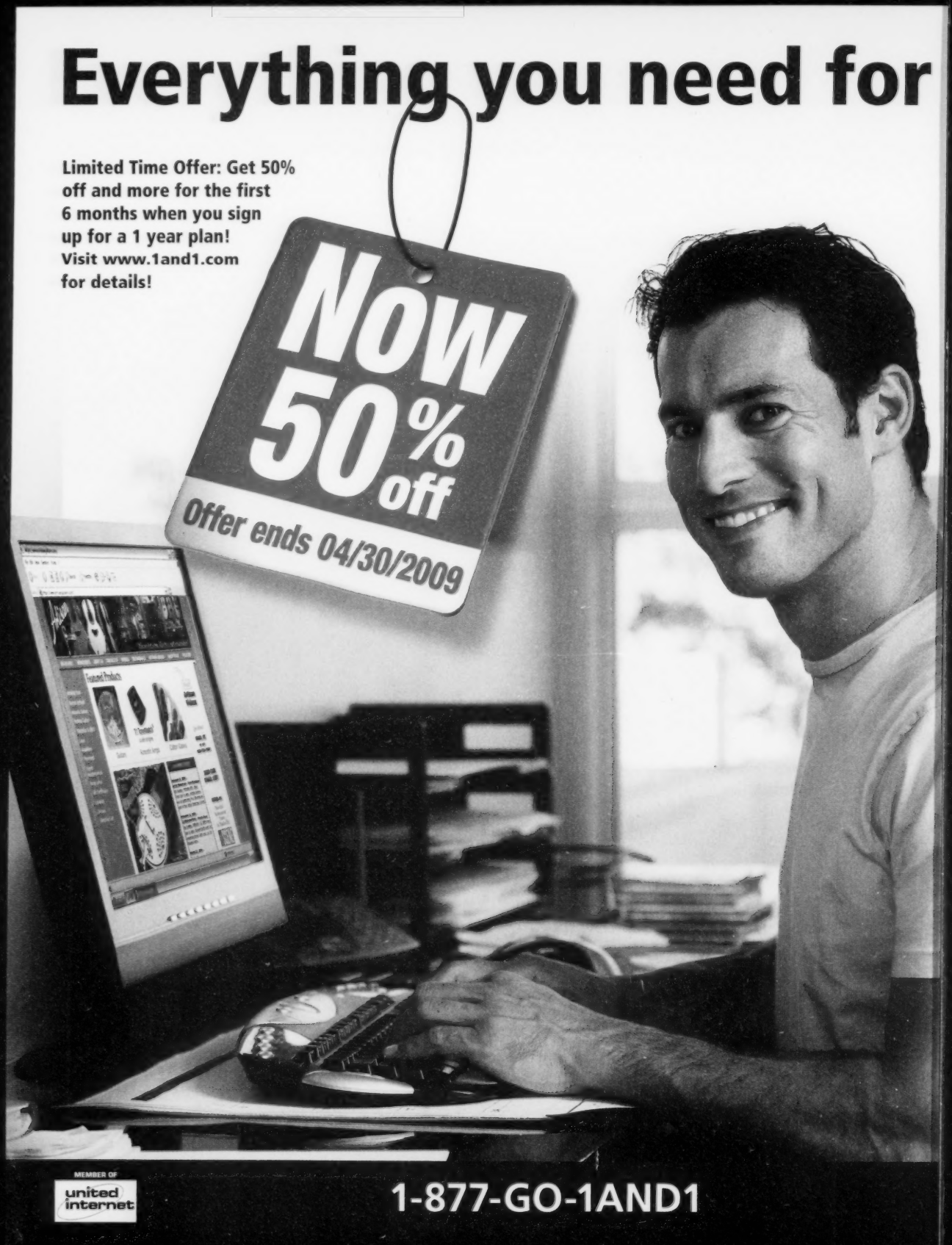
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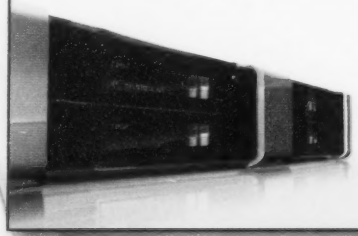

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STORAGE

Falling Budgets Force IT To Update Storage Systems

ORLANDO

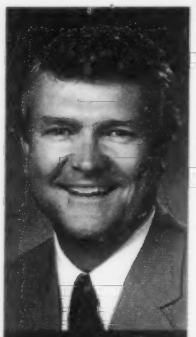
INFORMATION technology managers are hoping that moves to expand the use of virtual technologies and so-called green products can help them better cope with decreasing IT budgets.

The budget crunch is by far the top challenge facing IT storage managers today, at least according to half of the 70 attendees who responded to a poll at *Computerworld*'s Storage Networking World (SNW) conference here last week.

About 665 IT managers attended the conference.

Dave Burhop, CIO at the Virginia Department of Motor Vehicles, said the agency expects that deploying virtualization technology from VMware Inc. will let it reduce its server total from 3,000 to 1,000, significantly cutting its power needs.

The agency also cut the number of contractors it uses and asked its IT workers to "suck it up" and work 12-hour days to offset a 3% IT budget cut, Burhop added.



DAVE BURHOP says the Virginia DMV is deploying virtualization tools to reduce its power needs.

Herbalife International of America Inc. has already rolled out VMware software to its 700 servers, said M. Andy Hansen, principal engineer for IT and server operations. The company's 2009 IT budget is flat.

The maker of weight-loss products is now evaluating virtualization tools that could be used on its older storage systems and its new EMC Symmetrix and Clariion arrays.

"We're doing a lot of virtualization, and I know we're going to have a positive power impact because of that," Hansen said.

Of the 91 SNW attendees who responded to another poll question, 41% said they have started or completed storage virtualization projects, while 25% said they expect to begin substantial rollouts of the technology over the next year.

Green computing initiatives also figure prominently in cost-savings plans, according to SNW polls. A quarter of 91 attendees said they plan to roll out an energy-saving project this year, while 30% said they have already started such initiatives.

Companies are also looking beyond technology and personnel to cut IT costs. For example, Herbalife is saving $70,000 annually just by eliminating the purchase of Styrofoam coffee cups for IT workers, said Hansen.

— *Lucas Mearian*

Short Takes

A federal jury in Rhode Island found that Microsoft Corp. violated a patent held by Uniloc USA Inc. for technology used to protect against software piracy. The jury awarded Uniloc $388 million.

Intel Corp. unveiled a variant on its Nehalem server processor, code-named Jasper Forest, at the Intel Developer Forum in Beijing. Jasper Forest is optimized for storage products and embedded applications.

Wholesale data center provider Digital Realty Trust has hired Michael Manos, general manager of Microsoft's data center services division, as its senior vice president of technical services. Manos oversaw Microsoft's efforts to build a global network of data centers to support its online services.

Cisco Systems Inc. has agreed to acquire Tidal Software Inc., a maker of application management software, for $105 million. The deal is expected to close in the fourth quarter.

SECURITY

Conficker, the Internet's No. 1 Threat, Gets an Update

AN UPDATE of the Conficker worm that appeared on PCs last week will likely help its makers do what all botnet owners strive to do – make money.

Kevin Hogan, director of security response operations at Symantec Corp., said the update, dubbed Conficker.e, began downloading and installing on previously infected computers last Thursday. Researchers said the updated worm was downloaded over a peer-to-peer function in Conficker.

According to Symantec, Conficker.e is downloading and installing Waledac, a noted Trojan horse bot perhaps best known as the successor to the infamous Storm bot of 2008. As was the case with Storm,

Waledac bots – PCs infected with the Trojan horse – are rented out to spammers.

Alex Gostev, a researcher at Kaspersky Lab, said Conficker.e is also downloading and installing fake security software. The software tries to provoke users with bogus infection warnings that keep popping up until they pay $50 for a useless program.

The lack of a clear business model for Conficker, which appeared in November 2008, had confounded researchers and raised fears that it would launch an attack on April 1.

"I don't want to be a scaremonger," said Hogan, "but the situation now is more serious than a couple of weeks ago."

– GREGG KEIZER, WITH JEREMY KIRK OF THE IDG NEWS SERVICE

OPERATING SYSTEMS

Vista Needed for Next Windows 7 Upgrade

MICROSOFT CORP. last week urged Windows 7 beta testers to return their machines to the Windows Vista operating system before upgrading to the impending release-candidate version of the new software.

Windows 7 Release Candidate, the next milestone for the operating system, is expected to be available sometime next month.

In a post on its Engineering Windows 7 blog, Microsoft asked users to revert to Vista to ensure that their upgrade process is "something real-world customers will experience."

Microsoft said that bugs or other problems reported while upgrading from one prerelease build to another aren't worth fixing. "We don't always track them down and fix them because they take time away from bugs that would only manifest themselves during this one-time prerelease operation," it said.

Microsoft acknowledged the difficulty that its request poses to users. "We know that means reinstalling, recustomizing, reconfiguring and so on. That is a real pain," it said in the blog.

For Windows 7 beta testers who decline to revert to Vista before upgrading, Microsoft provided instructions for circumventing a built-in check that bumps users out of the release candidate installation if the beta is still present. The process involves booting from an external drive or another partition, and then modifying an installation file with a text editor.

Meanwhile, a survey by ChangeWave Research found that the number of Windows 7 beta testers who were satisfied with the operating system was four times higher than that of early users of Vista.

In a poll of IT professionals, the market research firm found that 44% of 68 users testing Windows 7 were "very satisfied" with the beta. In a February 2007 ChangeWave survey conducted just weeks after Vista's launch, only 10% of the respondents expressed the same level of satisfaction with that operating system.

— *Gregg Keizer*

BETWEEN THE LINES *By John Klossner*

BENCHMARKS LAST WEEK

Authorities in India filed criminal charges against six former executives of Satyam Computer Services Ltd. in connection with the accounting fraud disclosed by the company in January.

Former Qwest Communications International Inc. CEO Joseph Nacchio, who was convicted of securities fraud in 2007, was ordered to report to a federal prison in Pennsylvania tomorrow.

45 YEARS AGO IBM began the modern computing era by unveiling its System/360 mainframes, the first line of compatible systems that all ran the same software.

Global Dispatches

Germany Fines Microsoft €9M

BONN – The Bundeskartellamt, Germany's competition authority, last week announced that Microsoft Corp. has been fined €9 million ($11.9 million U.S.) for illegally working with a retailer to fix prices of its Office software.

In a statement, Microsoft said it doesn't agree with the decision but will pay the fine rather than prolong the legal dispute. The company said the case involved a single reseller and does "not reflect an ongoing or consistent practice."

The Bundeskartellamt said that employees of Microsoft and a German national retailer met on two occasions and agreed on the resale price of the Office Home and Student 2007 suite.

Jeremy Kirk,
IDG News Service

Australia Sets Broadband Plan

CANBERRA, Australia – The Australian government last week announced plans to build a nationwide next-generation broadband network.

Prime Minister Kevin Rudd said the government expects to spend $43 billion Australian ($31 billion U.S.) to create the new fiber-optic network, which will perform at speeds of up to 100Mbit/sec.

Rudd said the undertaking will be the country's largest-ever infrastructure project and is expected to be completed in seven to eight years. It will initially be overseen by National Broadband Network Corp. and private-sector firms.

Nadia Cameron,
Computerworld Australia

BRIEFLY NOTED

Google Inc. and Yahoo Inc. have launched Web sites dedicated to coverage of this week's federal elections in India. The companies said they created the sites in a bid to build their brands among the country's Internet users. Google said that many of India's 25 million voting-age Internet users are seeking election information from online sources.

John Ribeiro,
IDG News Service

STORAGE

Falling Budgets Force IT To Update Storage Systems

ORLANDO

INFORMATION technology managers are hoping that moves to expand the use of virtual technologies and so-called green products can help them better cope with decreasing IT budgets.

The budget crunch is by far the top challenge facing IT storage managers today, at least according to half of the 70 attendees who responded to a poll at *Computerworld*'s Storage Networking World (SNW) conference here last week.

About 665 IT managers attended the conference.

Dave Burhop, CIO at the Virginia Department of Motor Vehicles, said the agency expects that deploying virtualization technology from VMware Inc. will let it reduce its server total from 3,000 to 1,000, significantly cutting its power needs.

The agency also cut the number of contractors it uses and asked its IT workers to "suck it up" and work 12-hour days to offset a 3% IT budget cut, Burhop added.

DAVE BURHOP says the Virginia DMV is deploying virtualization tools to reduce its power needs.

Herbalife International of America Inc. has already rolled out VMware software to its 700 servers, said M. Andy Hansen, principal engineer for IT and server operations. The company's 2009 IT budget is flat.

The maker of weight-loss products is now evaluating virtualization tools that could be used on its older storage systems and its new EMC Symmetrix and Clariion arrays.

"We're doing a lot of virtualization, and I know we're going to have a positive power impact because of that," Hansen said.

Of the 91 SNW attendees who responded to another poll question, 41% said they have started or completed storage virtualization projects, while 25% said they expect to begin substantial rollouts of the technology over the next year.

Green computing initiatives also figure prominently in cost-savings plans, according to SNW polls. A quarter of 91 attendees said they plan to roll out an energy-saving project this year, while 30% said they have already started such initiatives.

Companies are also looking beyond technology and personnel to cut IT costs. For example, Herbalife is saving $70,000 annually just by eliminating the purchase of Styrofoam coffee cups for IT workers, said Hansen.

— *Lucas Mearian*

Short Takes

- A federal jury in Rhode Island found that Microsoft Corp. violated a patent held by Uniloc USA Inc. for technology used to protect against software piracy. The jury awarded Uniloc $388 million.
- Intel Corp. unveiled a variant on its Nehalem server processor, code-named Jasper Forest, at the Intel Developer Forum in Beijing. Jasper Forest is optimized for storage products and embedded applications.
- Wholesale data center provider Digital Realty Trust has hired Michael Manos, general manager of Microsoft's data center services division, as its senior vice president of technical services. Manos oversaw Microsoft's efforts to build a global network of data centers to support its online services.
- Cisco Systems Inc. has agreed to acquire Tidal Software Inc., a maker of application management software, for $105 million. The deal is expected to close in the fourth quarter.

SECURITY

Conficker, the Internet's No. 1 Threat, Gets an Update

AN UPDATE of the Conficker worm that appeared on PCs last week will likely help its makers do what all botnet owners strive to do – make money.

Kevin Hogan, director of security response operations at Symantec Corp., said the update, dubbed Conficker.e, began downloading and installing on previously infected computers last Thursday. Researchers said the updated worm was downloaded over a peer-to-peer function in Conficker.

According to Symantec, Conficker.e is downloading and installing Waledac, a noted Trojan horse bot perhaps best known as the successor to the infamous Storm bot of 2008. As was the case with Storm,

Waledac bots – PCs infected with the Trojan horse – are rented out to spammers.

Alex Gostev, a researcher at Kaspersky Lab, said Conficker.e is also downloading and installing fake security software. The software tries to provoke users with bogus infection warnings that keep popping up until they pay $50 for a useless program.

The lack of a clear business model for Conficker, which appeared in November 2008, had confounded researchers and raised fears that it would launch an attack on April 1.

"I don't want to be a scaremonger," said Hogan, "but the situation now is more serious than a couple of weeks ago."

– GREGG KEIZER, WITH JEREMY KIRK OF THE IDG NEWS SERVICE

OPERATING SYSTEMS

Vista Needed for Next Windows 7 Upgrade

MICROSOFT CORP. last week urged Windows 7 beta testers to return their machines to the Windows Vista operating system before upgrading to the impending release-candidate version of the new software.

Windows 7 Release Candidate, the next milestone for the operating system, is expected to be available sometime next month.

In a post on its Engineering Windows 7 blog, Microsoft asked users to revert to Vista to ensure that their upgrade process is "something real-world customers will experience."

Microsoft said that bugs or other problems reported while upgrading from one prerelease build to another aren't worth fixing. "We don't always track them down and fix them because they take time away from bugs that would only manifest themselves during this one-time prerelease operation," it said.

Microsoft acknowledged the difficulty that its request poses to users. "We know that means reinstalling, recustomizing, reconfiguring and so on. That is a real pain," it said in the blog.

For Windows 7 beta testers who decline to revert to Vista before upgrading, Microsoft provided instructions for circumventing a built-in check that bumps users out of the release candidate installation if the beta is still present. The process involves booting from an external drive or another partition, and then modifying an installation file with a text editor.

Meanwhile, a survey by ChangeWave Research found that the number of Windows 7 beta testers who were satisfied with the operating system was four times higher than that of early users of Vista.

In a poll of IT professionals, the market research firm found that 44% of 68 users testing Windows 7 were "very satisfied" with the beta. In a February 2007 ChangeWave survey conducted just weeks after Vista's launch, only 10% of the respondents expressed the same level of satisfaction with that operating system.

— Gregg Keizer

BETWEEN THE LINES *By John Klossner*

BENCHMARKS LAST WEEK

Authorities in India filed criminal charges against six former executives of Satyam Computer Services Ltd. in connection with the accounting fraud disclosed by the company in January.

Former Qwest Communications International Inc. CEO Joseph Nacchio, who was convicted of securities fraud in 2007, was ordered to report to a federal prison in Pennsylvania tomorrow.

45 YEARS AGO: IBM began the modern computing era by unveiling its System/360 mainframes, the first line of compatible systems that all ran the same software.

Global Dispatches

Germany Fines Microsoft €9M

BONN – The Bundeskartellamt, Germany's competition authority, last week announced that Microsoft Corp. has been fined €9 million ($11.9 million U.S.) for illegally working with a retailer to fix prices of its Office software.

In a statement, Microsoft said it doesn't agree with the decision but will pay the fine rather than prolong the legal dispute. The company said the case involved a single reseller and does "not reflect an ongoing or consistent practice."

The Bundeskartellamt said that employees of Microsoft and a German national retailer met on two occasions and agreed on the resale price of the Office Home and Student 2007 suite.

Jeremy Kirk, IDG News Service

Australia Sets Broadband Plan

CANBERRA, Australia – The Australian government last week announced plans to build a nationwide next-generation broadband network.

Prime Minister Kevin Rudd said the government expects to spend $43 billion Australian ($31 billion U.S.) to create the new fiber-optic network, which will perform at speeds of up to 100Mbit/sec.

Rudd said the undertaking will be the country's largest-ever infrastructure project and is expected to be completed in seven to eight years. It will initially be overseen by National Broadband Network Corp. and private-sector firms.

Nadia Cameron, Computerworld Australia

BRIEFLY NOTED

Google Inc. and Yahoo Inc. have launched Web sites dedicated to coverage of this week's federal elections in India. The companies said they created the sites in a bid to build their brands among the country's Internet users. Google said that many of India's 25 million voting-age Internet users are seeking election information from online sources.

John Ribeiro, IDG News Service

■ NEWS ANALYSIS

PCI Rules May Require Security Reinforcements

Critics carp that the standard isn't protecting card data. And chief proponent Visa is working on new technologies that would go beyond PCI.

© FOTOLIA / LEAH-ANNE THOMPSON

By Jaikumar Vijayan

THE PCI STANDARD, long touted as one of the private sector's strongest attempts to regulate itself on IT security, is increasingly being slammed by critics who claim that the rules aren't doing enough to protect credit and debit card data.

And amid all the complaints, Visa Inc. — the standard's biggest proponent — is working one-on-one with banks and retailers to test new security measures that go beyond the controls currently mandated by PCI.

> **"I do want to dispel the myth once and for all that PCI compliance is enough to keep a company secure.**
>
> **REP. YVETTE CLARKE (D-N.Y.),** CHAIRWOMAN, HOUSE SUBCOMMITTEE ON EMERGING THREATS, CYBERSECURITY, SCIENCE AND TECHNOLOGY

What it all adds up to is a new sense of uncertainty about the future of the specification, which is formally known as the Payment Card Industry Data Security Standard, or PCI DSS. Created by Visa and other credit card companies, the PCI rules will have been in effect for four years as of June 30. But with breaches of card data continuing and questions about the standard's effectiveness on the rise, PCI DSS is showing signs of coming apart at the seams.

Criticism of the standard isn't new. But since the recent disclosures of breaches by payment processors Heartland Payment Systems Inc. and RBS WorldPay Inc., PCI DSS has been hit with some of its most forceful denunciations thus far.

For instance, at a March 31 hearing held in the U.S. House of Representatives, Rep. Yvette Clarke (D-N.Y.) said that PCI DSS simply isn't sufficient for protecting cardholder data. The security rules aren't "worthless," said Clarke, who chairs a subcommittee that focuses on cybersecurity among other topics. But, she added, "I do want to dispel the myth once and for all that PCI compliance is enough to keep a company secure."

As an example, Clarke pointed to the data breach disclosed early last year by Hannaford Bros. Co. The grocery store chain was certified as PCI-compliant by a third-party assessor in February 2008 — one day after it was informed of the system intrusions that had begun two months earlier.

Similarly, RBS WorldPay and Heartland both received PCI certifications last year prior to the breaches that they disclosed in December and January, respectively. Visa dropped the two companies from its list of PCI-compliant service providers last month and is requiring them to be recertified, although it has said merchants can continue to do business with them in the meantime.

Michael Jones, CIO at arts and crafts retailer Michaels Stores Inc., said at the House hearing that the PCI rules appea' to have been developed "from the perspective of the card companies, rather than from that of those who are expected to follow them." As a result, he contended, the requirements don't necessarily help to protect data.

Jones added that he

Continued on page 14

Andy Roddick has the fastest serve in tennis, but Bill Kurtis is faster. *On the Internet.*

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Continued from page 12

"would like nothing better" than to not have to store any card numbers in the systems at Michaels. But retailers are forced by card-issuing banks to keep that data in case of disputed transactions, he said. And then, when a breach occurs, "we are the ones who are demonized," Jones noted.

STANDARD DEFENSE

Visa officials and other PCI supporters continue to insist that the standard is an effective tool for mitigating threats to card data — when it's implemented properly.

At the hearing, Bob Russo, general manager of the PCI Security Standards Council, which oversees PCI DSS, repeated previous contentions that all of the companies breached thus far weren't actually complying with the standard when the breaches occurred, even if they had been certified as PCI-compliant beforehand.

A compliance certification represents only "a snapshot in time," Russo said. "Effective compliance is a full-length film where the organization is compliant in each and every frame."

Ellen Richey, Visa's chief enterprise risk officer, made the same point at the company's Global Security Summit in Washington earlier last month. "The fact is, [the Heartland breach] never should have happened," Richey told attendees, while claiming that such incidents are obscuring the "substantial progress" being made on the card security front.

Although what happened at Heartland "is unfortunate, it does not make me question the tools we have at our disposal," Richey said. She added that rumblings being heard about the PCI standard's possible demise are "dangerous" to the ongoing efforts to ensure that card data is protected.

However, Richey also acknowledged that the time has come for security controls that go beyond the ones now included in PCI. Visa itself is looking at new ways to improve data security, she said, pointing to a pair of pilot projects being conducted separately with Fifth Third Bancorp and retailer OfficeMax Inc.

In the first instance, Fifth Third is testing the use of magnetic-stripe technology to create unique digital fingerprints for each card. Dan Roeber, vice president and manager of merchant PCI compliance at the bank, said it has distributed about 1,000 new card readers to retailers that haven't been told about the pilot project. The readers use data from the magnetic stripe on the back of cards to create a "DNA picture," which is matched against baseline information during the transaction authorization process, Roeber added during a panel discussion at the Visa conference.

"Even if somebody gets into a database and makes fraudulent cards, the DNS fingerprints are not going to match," Roeber said. And there are no security key management issues with the technology being tested by the bank, he said, describing that as an advantage over the use of end-to-end encryption to protect data.

Roeber is among those citing some issues with PCI. The standard has "lots of moving parts," which can make complying a challenge, he said. He also suggested that the credit card companies should give merchants more flexibility to implement the controls based on the specific risks they face.

The pilot at OfficeMax involves a challenge-and-response technique being used to help authorize card transactions. The retailer is asking shoppers for information such as their ZIP codes, the last four digits of their phone numbers or their three-digit area codes. The responses are then matched against previously submitted answers, said William Van Orman, OfficeMax's treasurer.

> **"The fact is, [the Heartland breach] never should have happened. As we've said before, no compromised entity has yet been found to be in compliance with PCI DSS at the time of a breach."**
>
>
>
> **ELLEN RICHEY,**
> CHIEF ENTERPRISE RISK OFFICER, VISA INC.

The company has rolled out the new procedures at about 1,000 stores in Illinois, Indiana and Florida, Van Orman said, adding that changes to the point-of-sale systems at those locations were required. After an initial six-month trial, the pilot has been extended by four months at Visa's request. "Overall, we think it's a successful project," Van Orman said.

Richey said that while the techniques being tested at OfficeMax and Fifth Third Bancorp aren't yet ready for broad usage, they're the kind of approaches that could be used to make stolen card data useless at the point of sale. She also detailed efforts by Visa to develop new fraud-fighting tools for consumers, including a transaction alert service that can send real-time notices of purchase activity to mobile devices. The service, which currently can be used by Chase cardholders with Android-based smartphones, is scheduled to be made available to all card issuers later this year.

In addition, Richey said Visa isn't opposed to the idea of eventually adopting the same kind of chip technologies that are part of the chip-and-PIN security approaches used in Europe. Chip-based cards are considered to be more secure than ones with magnetic stripes because they can assign card-verification values on the fly when transactions are being authorized, instead of using a constant code for each card.

Moving fully to a chip-and-PIN system, in which cardholders must enter their personal identification numbers for every transaction, would require major upgrades to the payment system infrastructure in the U.S. Banks and credit card companies haven't shown a willingness to invest in that thus far.

But at the House hearing, Clarke blasted the payment card industry for continuing to rely on what she described as "1950s-era" payment systems. And she called for it to make the necessary investments to install more-secure technologies than what PCI prescribes. "The bottom line," Clarke said, "is that we have to do more, and we have to do it now." ■

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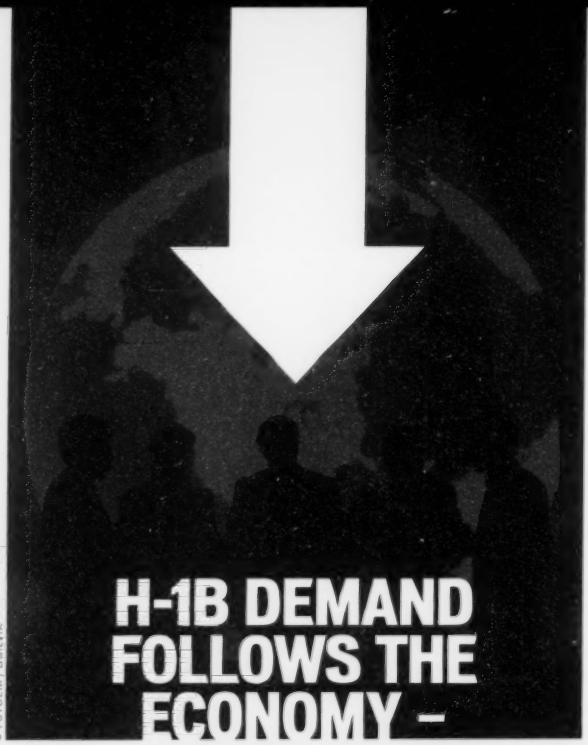

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H-1B DEMAND FOLLOWS THE ECONOMY – DOWN

The number of H-1B visa applications filed thus far is way off from last year's level.

By Patrick Thibodeau

DEMAND for H-1B visas usually fluctuates with the economy, and this year is no exception. In fact, the initial number of H-1B applications filed with the federal government was down even more sharply than expected from the number filed a year ago.

Last April, in just five days, the U.S. Bureau of Citizenship and Immigration Services received 163,000 applications for the 85,000 visas that were available. For the second straight year, the USCIS resorted to a lottery to award the visas.

On April 1, the agency began accepting H-1B applications for fiscal 2010, which starts in October. But as of last Thursday, nine days into the filing period, only about 62,000 visa petitions had been submitted.

The USCIS said 42,000 of those applications were for one of the 65,000 regular visas that can be issued. Another 20,000 visas are set aside for foreigners with advanced degrees from U.S. universities; the agency has received more than enough applications for those visas but said it is continuing to accept additional petitions.

The economic recession and the resulting widespread job cuts at IT vendors were expected to reduce H-1B demand this year. But immigration attorneys and supporters of the visa program had predicted that the available supply would easily be exhausted again.

And that still may happen, especially after college graduations in May. Foreign students can't apply for H-1B visas until they graduate — a restriction that shut them out of the application process in recent years. That prompted the Bush administration last April to extend the amount of time that some foreigners can continue to work in the U.S. on their student visas.

In late March, Robert Hoffman, co-chairman of Compete America, a lobbying group in Washington, said that H-1B proponents hope to "clear the backlog" of foreign nationals who are in the U.S. but couldn't get visas a year ago. Many of the applications filed for the advanced-degree visas are likely coming from such people, he said last week.

But the overall application numbers "reaffirm that this is a program that essentially tracks with the broader demand" for workers based on the economy, added Hoffman, who is vice president of government and public affairs at Oracle Corp.

The economic connection has been borne out in the past. For instance, in fiscal 2001, when the annual H-1B cap was set at 195,000, the government issued 163,600 visas. But the following year, after the dot-com bubble burst, that number fell by more than half, to 79,100.

Despite the drop in demand for visas, John Miano, an H-1B critic who is founder of the Summit, N.J.-based Programmers Guild, said he still expects the cap to be reached this year.

And the H-1B program is still generating plenty of controversy. Miano said that if H-1B usage were largely driven by the economy, the number of applications should have gone down "close to zero" this year.

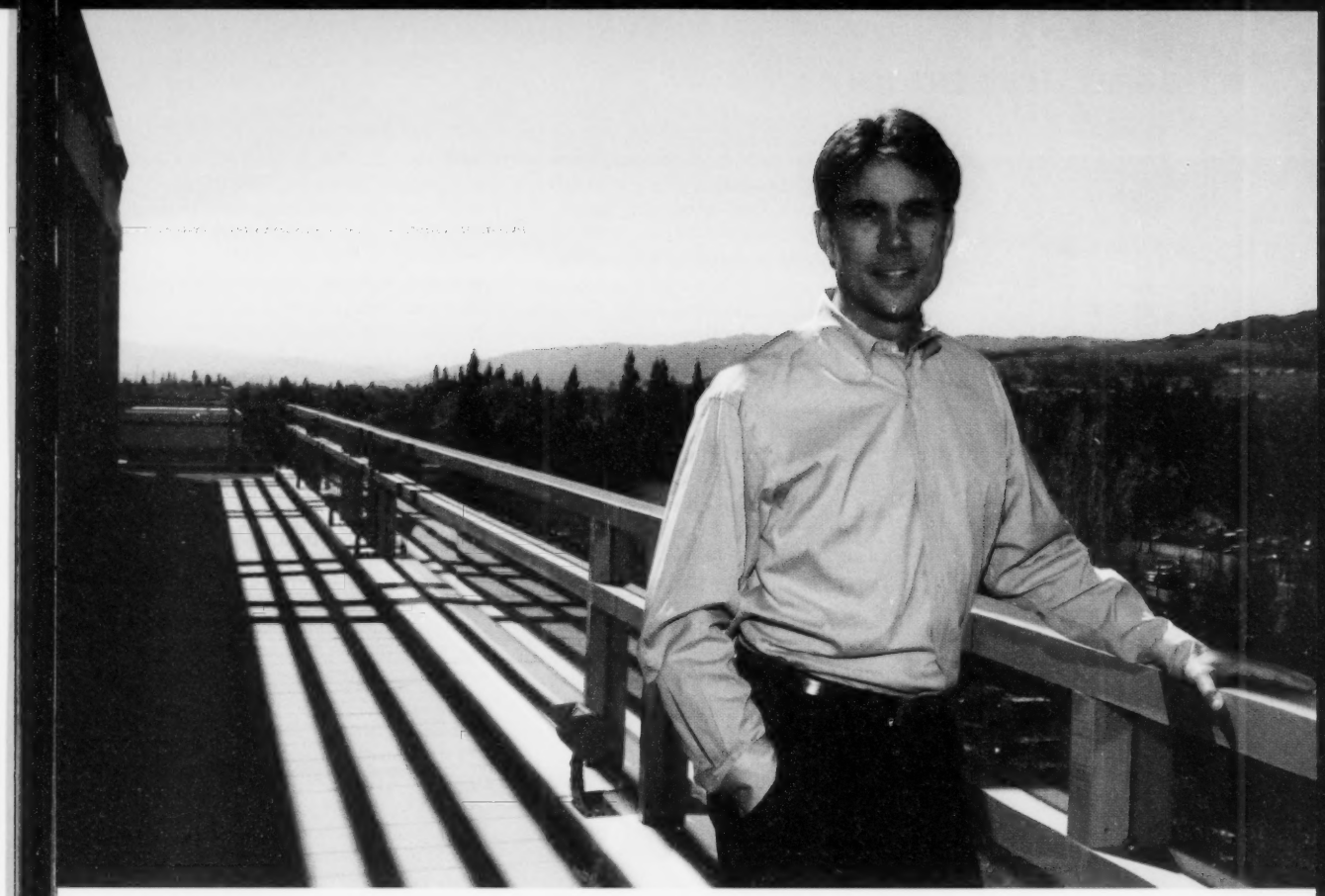
IEEE-USA, an organization for engineers, also "continues to be concerned about the H-1B program," said its president, Gordon Day.

Those concerns have to do with competition for jobs at a time of increasing layoffs. IEEE-USA, a unit of what was formerly known as the Institute of Electrical and Electronics Engineers, reported that the unemployment rate for computer-related engineering occupations jumped from 3.3% in the fourth quarter of 2008 to 5.4% at the end of March.

Sens. Dick Durbin (D-Ill.) and Chuck Grassley (R-Iowa) this month are expected to propose a set of H-1B reforms, including a requirement that companies make "good faith" efforts to hire U.S. citizens before bringing in H-1B workers.

Hoffman hopes to avoid piecemeal moves to set new restrictions, arguing that any H-1B changes — including a potential cap increase — should be part of broader immigration reform.

It's unclear whether President Barack Obama would back a cap increase. But last month, in a court filing arguing against a lawsuit seeking to overturn the student-visa extension, the White House said that the inability of employers to obtain H-1B visas is creating "a competitive disadvantage for U.S. companies." ■



■ THE GRILL

Louie Ehrlich

Chevron's CIO talks about **strategic planning, virtual training** and dealing with **4TB of new data per day.**

Last year, you became CIO at Chevron and president of its Information Technology unit. How did you handle the transition?
I spent a lot of time listening. Chevron has a management committee of the top 60 executives. I literally went out and spoke to the 60 and I asked them three basic questions: What was important to you in your business, what's working well with IT at Chevron and what's not? I could assume I knew a lot about the business, being here for 28 years, but getting a fresh perspective from that many people across the full breadth of the business was enlightening.

I also have been doing town halls with employees. I do something called "Lunch With Louie." I get a cross-section of about 10 to 12 employees every two weeks, [and] I ask similar questions: "What's working? What's not? Coach me as I come into this job."

How did that affect how you do your job?
Based on that, we brought in help from a third party and did an assessment of the current state of IT. We just completed a refresh of Chevron's IT strategy, and we laid out a 10-year vision and a three-year road map. It's a good chance

Dossier

Name: Louie Ehrlich

Title: CIO at Chevron Corp. and president of the Information Technology Co. unit

Location: San Ramon, Calif.

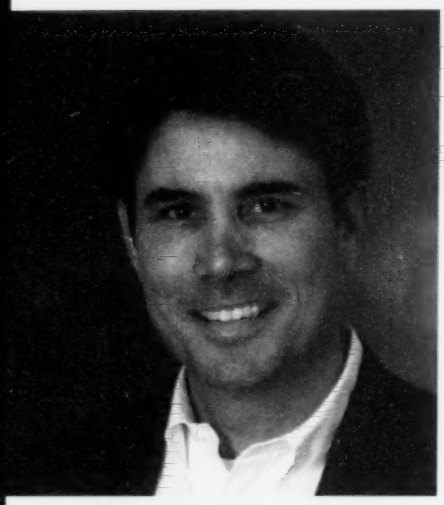
Most interesting thing people don't know about him: "My life's an open book. I'm a singer-songwriter."

Favorite technology: His BlackBerry

Ambition: "That my family is healthy, my children are successful and that they look at me the way I look at my father: as a pillar of strength, a great example."

Favorite vice: "A good bottle of wine."

Ask him to do anything but: "Paint your house or mow your yard."



“We've managed 50-plus 3-D seismic projects. If you put them on CDs and stacked them flat, they would be 652 miles high.

to take a deep breath, help the organization reflect on what's going well [and] what's not, and set a fresh direction.

What does that three-year road map look like? There are three strategic intents: prioritization, simplification and integration. Chevron does a great job of aligning information technology investments to the segments of the business. We've done quite a bit over the past five years to put in place a strategy alignment process that ultimately results in a road map for each of those segments.

That's necessary but not sufficient. So we are moving from segmented prioritization to enterprisewide portfolio management. Now we're going to take a more holistic view. If we do that, we can get more return on investment by putting the focus on things that add the most value to Chevron.

We have some measures associated with that. One is to have 20% fewer concurrent projects going on than we have today. And we want to ensure that our investments are focused in three fundamental areas: accelerating business insight; automating, optimizing and integrating Chevron's business operations; and connecting people, processes and businesses. What we want to do enterprisewide is put the most money into things that are going to make the most money for Chevron, guided by those three strategic areas.

The many mergers we have gone through have created a fairly complex IT environment. We're going to reduce our application portfolio by 20% and cut our vendors and suppliers by half over the next three years.

Data is just hugely important to us, and we're going to put energy toward getting clear from an enterprise perspective what are the top 10 data types that make the most money for Chevron, and then understand the quality of those and relentlessly pursue improving the quality of those to something that's world-class over the next three years.

You started as a programmer-analyst at Chevron in 1981 and rose through the ranks. Is that still a viable way to advance in IT? I know there are CIOs that move around a lot, but you also have to look at the size of the companies they move around to. Not all CIO jobs are the same. This company is huge, and in 28 years I've had 17 jobs, and they've been across the value chain.

Is that a viable way to attain the CIO position? I think it's one way. I still think it's a viable one. But if you're going to do it the way I did it, you've got to be flexible. You need to move around a bit, because it's important — particularly if you've got a technical background — to understand the business. And to get that understanding, you're going to have to either be involved in the enablement of different pieces of the business or take on different roles, as I have.

What IT investments will Chevron make this year, and how has the recession affected those choices? We're right in the middle of a major refresh of our desktop infrastructure. That's 100,000 desktops around the world. We're about 5,000 to 10,000 into that. We're deploying Vista worldwide.

Why upgrade to Vista now, when Windows 7 is so close? We have to. We're at the end of life cycle of that asset base. The things we've had to do with application integration are the same things you have to do with Windows 7. I view Windows 7 as an upgrade from Vista. We're talking 100,000 machines. It's an 18-month deployment. So when we get there, we'll take a look [at Windows 7]. But there's no guarantee when Windows 7 will be ready.

What unique challenges does IT face in meeting the needs of your industry? We're trying to make sense out of things you can't see, so understanding the subsurface is critical. It's also just the amount of data that we have. We have this seismic information that we use to make a lot of decisions and to understand the subsurface. We've managed 50-plus 3-D seismic projects. If you put them on CDs and stacked them flat, they would be 652 miles high. That gives you a sense of how dense the data is.

At refineries, there's this data being created constantly by our control systems — 4TB of new data per day. Every second, 60,000 valves are controlled by IT, and information is created about that. The trick is, how do you make sense out of that data in a way that's going to add value to the company?

What technology are you most excited about? It's virtual worlds. We have a pilot going on in our Salt Lake City refinery around a Second Life [type of virtual world]. We're using it to help train employees in our refineries. You're using simulation models so that they're not out in the refinery, having to learn that way. It's a much safer way of training people, but it's also a way in which you can repeat the training in a consistent way and even save the experience.

I see it going beyond just training. This is a pretty dangerous business. Imagine you're sitting around a table in a virtual world with experts from all around the world, and you're working on some sort of problem in a refinery with some equipment. Suddenly, the equipment shows up on the table and you're able to see it, discuss it, try to fix it and run a simulation to see what it does. You're doing things you just can't do in the real world. It's a way to bring in expertise from all around the world tied with real-time models.

— *Interview by* **Robert L. Mitchell**

■ OPINION

Thornton A. May

A Time to Think Of IT Systemically

GIVEN the magnitude of our current economic troubles, historians will label these last years of the first decade of the 21st century as a hinge of history. For those of us in IT, it's a moment when decisions *really* matter, a time when the button you push, the system you build, the employee you hire and the relationships you form will materially affect the success of both yourself and the organization you labor for.

But, truth be told, many IT leaders do not have a plan. "Reduce costs" is not a strategy. "Hunker down and wait for normal times to return" is delusional. The smartest thing you can do is start thinking systemically about IT.

What exactly does that mean? Well, let's go to the inverse: thinking unsystemically. A prevalent example is to look for someone to give you *the* answer. Throughout history, troubled times have given rise to false prophets who claim, with absolute certainty, that they understand what has happened, why and, most seductively, what people need to do to keep afloat during the current maelstrom.

Such a futile search for messiahs isn't limited to CIOs. As *New York Times* columnist Tom Friedman pointed out about the recently concluded Davos conference of global leaders, "Everyone is looking for *the guy* — the guy who can tell you . . . exactly how we get out of this mess and exactly what you should be doing. But here's what's really scary: *the guy* isn't here."

Lacking messiahs, there are a few systemic thinkers with a characteristically astute appreciation of timing. They somehow know when a system of thought has run its course and can no longer explain reality. My former boss, futurist Alvin Toffler, presciently observed that "most people still seem unaware that the basic rules are changing. It means re-evaluating issues in new terms. The straight-line future runs flat into a wall."

■ Truth be told, many IT leaders do not have a plan. 'Reduce costs' is not a strategy.

Once they've run into the wall — when what they thought they knew can't explain current realities — some try to find truth in the data — all the data. They turn the receptors up high and react to every new microbit of information as it arrives: "Vendor X had layoffs." "Venture capital investments in categories X, Y and Z are down." "Analyst Alpha says. . . ." Overattention to the news stream can create madness and paralysis. Or, as the great screenwriter Ben Hecht said about trying to understand the world by reading newspapers, it's "like trying to tell time by watching the second hand of a clock." One needs a context to fit all the data into.

For IT, this is the primary context: Technology is getting more powerful and less expensive all the time. A good place to begin your systems thinking is with the question of what you are going to do with all this technology capability. One answer: Automate intellectual labor. During the first three quarters of the 20th century, we tended to focus technology investments on machines to replace manual labor. Over the past 30 years, we have laid the foundation for machines that automate intellectual labor.

Certainly, all machine tending is going to be automated. If you are not there, get busy. A rich ecosystem of virtualization, software-as-a-service and IT services firms awaits your call.

Beyond that, analytics is going to be huge. Ahead-of-the-curve CIOs are adding statistically savvy analysts to their staffs as you read this. The next set of IT performance leaders will excel at augmenting human intellect.

And intellect augmentation should start at the top. Former Massachusetts CIO Louis Gutierrez, who for my money is one of the savviest IT brains on the planet, believes that IT needs to move up in the organizational decision-making process. "You have to be a participant in the business dialogue," he says. "You have to manage ideas when they first are being formed in the CEO's head." ■

Thornton A. May *is a longtime industry observer, management consultant and commentator. You can contact him at thorntonamay@aol.com.*

THEY'RE GOOD BROWSERS GONE BAD

And They All Do

JEFFREY ZELDMAN must have thought he'd never live to see the day. Ten years after he co-founded the Web Standards Project, all of the major browser vendors have renewed their commitment to supporting World Wide Web Consortium (W3C) standards in the past few years — and they're following through. The specifications in the latest standards initiatives are tighter than ever. Web authoring tools are generating more-compliant code. Two of the three rendering engines that underpin the major browsers in use today are open source.

And for the first time ever, the latest version of Microsoft Corp.'s browser, Internet Explorer 8, operates strictly in standards-compliant mode by default. In other words, it will support the W3C standards before it provides backward compatibility with nonstandard coding methods supported by Microsoft's previous browsers.

Those who lived through the browser wars of the '90s might think that hell has frozen over, were it not for one small problem: Users still experience plenty of problems on the Web. A recent report issued by browser vendor Opera Software ASA showed that the average page on the Web strays from WC3 page-markup specifications 47 times. Overall, just 4.13% of the 3.5 million Web pages Opera searched were fully standards-compliant when tested against the W3C validation suite.

Why? Because many older Web sites haven't been updated, many developers still don't design to modern standards and best practices, some browser vendors may interpret specifications differently from what was intended, and other vendors simply don't fully implement all of the W3C-standard features.

As for the standards themselves, some specifications suffer from ambiguity or leave some features undefined. In addition, the improved thoroughness of the new standards has a downside: It has slowed the standardization process — a fact that has frustrated some Web developers and could tempt browser vendors to once again innovate outside of the standards framework.

TURNING THE SHIP

Microsoft's Internet Explorer doesn't dominate the browser market like it once did, but it still has the largest share by far — about 70%. Idiosyncrasies in the various versions of IE — especially IE6 — have created problems for other browser vendors and Web developers. Even Microsoft has struggled to maintain backward compatibility in its own browser because of bugs and the use of nonstandard coding methods in various versions. As a result, Microsoft has had to drag along an installed base of corporate and public Web sites that were built to the quirks of IE's previous versions, trapping itself into endless iterations of standards noncompliance.

Developers once coded their sites to the nonstandard methodologies and work-arounds required to support IE6 and earlier browsers. Those sites didn't

ILLUSTRATION BY ANASTASIA VASILAKIS

Better browsers. Better standards. Better tools.

So why are Web pages still breaking?

BY ROBERT L. MITCHELL

Educating The Masses

You can have complete, unambiguous standards in place, fully compliant browsers and state-of-the-art authoring tools that generate compliant code, but nothing will change until Web site developers change their behavior. "There are lots of people who just slap code together until it works," says Eric Meyer, principal at Complex Spiral Consulting.

But how do you get the world's Web developers – and the more than 20 billion Web pages they've created – up to speed?

Many still aren't clued in, and education is now the Web Standards Project's biggest focus.

Project co-founder Jeffrey Zeldman says developers who aren't following standards today fall into three groups. "Some are unwilling, some don't know any better, and some are willing and know better but are prevented from implementing best practices because of wrongheaded directives by out-of-touch marketing departments – and sometimes even IT departments."

Freelance Web developer Peter-Paul Koch says there are too many amateurs in today's Web development community. "There are a lot of Web developers who haven't the faintest idea of what they're doing," he says. As standards take hold, Koch expects that to change. "Over the next few years, the people who aren't professionals will be out of a job," he says.

But Philippe Le Hegaret, interaction domain lead at the W3C, thinks amateur designers are part of the fabric of the Web. "People shouldn't have to know CSS to produce nice Web pages," he says. "They should just have their tools produce CSS for them."

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render properly when viewed with competing browsers, even if those browsers followed W3C standards. To address that, developers kept two sets of Cascading Style Sheets (CSS) — one for IE and one for everything else.

Times have changed. Rather than develop for IE first, many developers now code to a standards-compliant browser such as Mozilla's Firefox and then present a different style sheet to IE users. That's what Eric Meyer does. "In the end, I'll fire it up in IE, find out what went wrong and work the code around that," says Meyer, a Web developer, author and principal at Complex Spiral Consulting in Cleveland.

As Microsoft develops the next version of its browser, Internet Explorer 8, it has gotten serious about supporting standards first. "In the past, we've focused more on [backward] compatibility than interoperability. Now we're trying to be as interoperable as possible," says Chris Wilson, platform architect for Internet Explorer.

Microsoft is also playing a larger role at the W3C. But despite the progress, the company still lags behind other vendors in incorporating the latest W3C specifications, such as Scalable Vector Graphics, which is used in Firefox, Opera and Apple's Safari.

Because many parts of Internet Explorer need updating, Microsoft had to choose where to focus its attention when it developed IE8. "We tried to move everything forward across the board in IE8, but we picked one area we wanted to get right," and that was support for CSS 2.1, says Wilson. His goal is to have a complete implementation of CSS 2.1 when IE8 finally ships.

As with any other fully standards-compliant browser, IE8 will work on all Web sites that follow the standards — and break when visiting sites that were designed to exploit the proprietary features and other idiosyncrasies of IE6 and 7. To fix that, Web site designers will either need to make their Web sites conform to the standards or add a tag in the Web page header that tells IE8 to switch to IE7 behavior.

"Once that happens — once sites that worked fine in old versions of IE start breaking — the unwilling will get religion about Web standards," says Zeldman, who is executive creative director at Web development firm Happy Cog Studios LLC and publisher of *A List Apart*, an online magazine for Web developers.

COMPATIBILITY DRAG

Not all the problems in IE7 are being fixed in IE8, however. One example is the nonstandard way in which IE defines an event handler in JavaScript. In event handling, a programmer writes a script that executes in response to an event, such as the user clicking on a link.

"Microsoft deliberately ignored the standard," says freelance Web developer and author Peter-Paul Koch, who is known for his publication of browser-compatibility tables at QuirksMode.org. Microsoft says it intends to bring event handling into compliance with the current standard but simply couldn't get it into IE8.

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CORE W3C STANDARDS

The World Wide Web Consortium has more than 120 standards – which it calls recommendations – but these are the five most prominent:

- **HTML:** A markup tool
- **Scalable Vector Graphics (SVG):** An XML-based graphics tool
- **Portable Network Graphics (PNG):** A graphics file format
- **Cascading Style Sheets (CSS):** A language for styling Web documents
- **Document Object Model (DOM):** A programming interface for accessing and updating Web page content.

Some of the most active and forward-looking work is being done in the groups working on the emerging HTML 5 and CSS 3 specifications.

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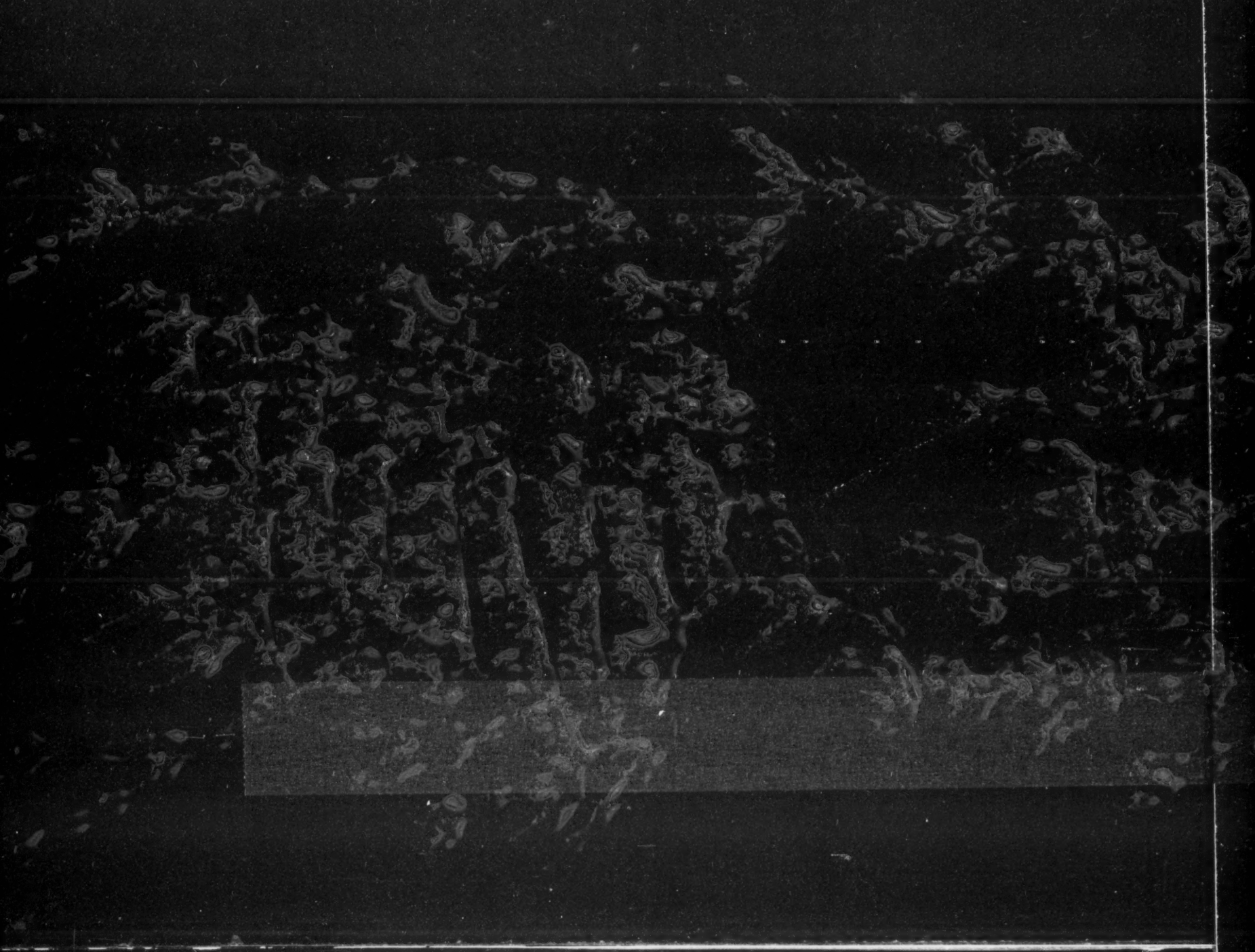

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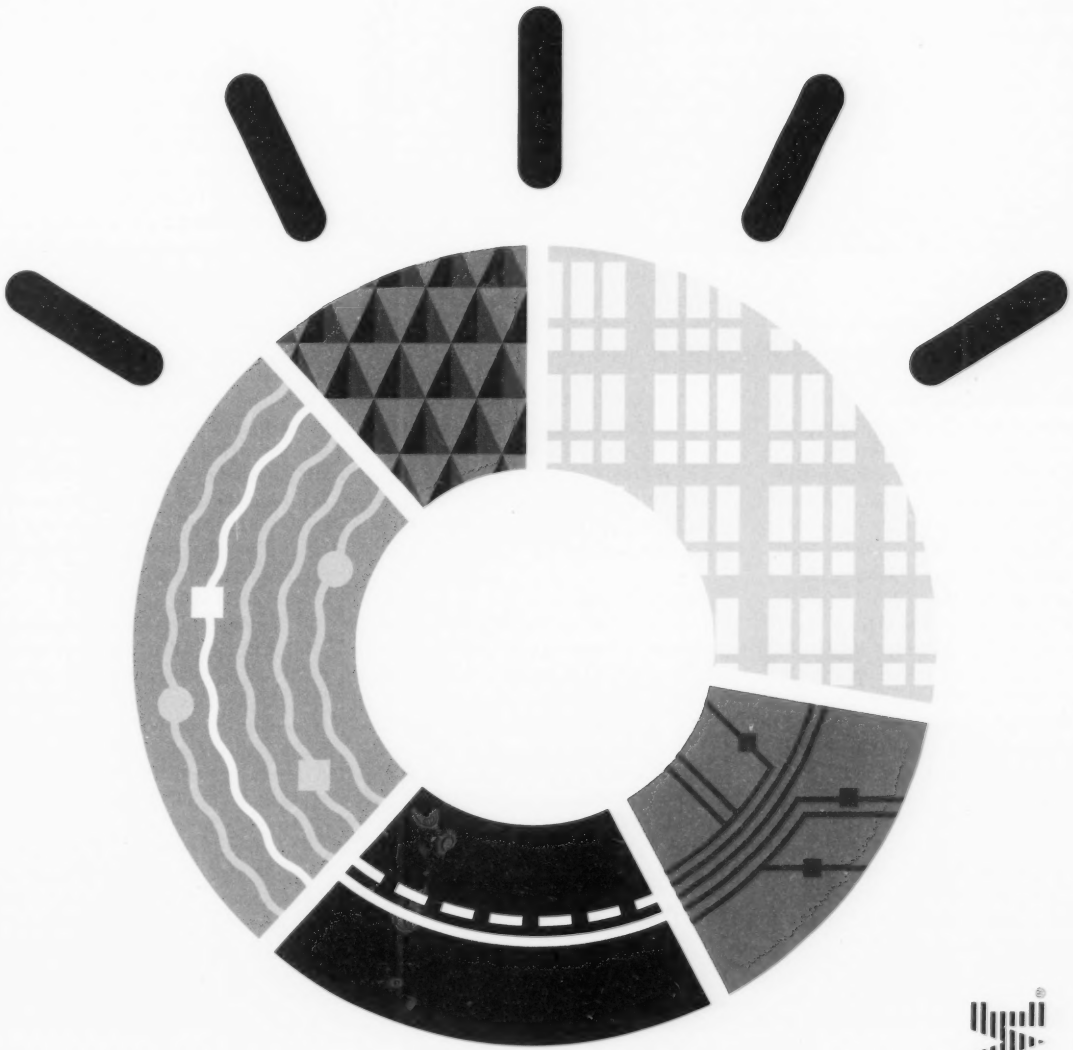

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CORPORATE HOLDOUTS

The last to get standards religion may be internal-facing corporate Web sites, many of which were built specifically to work with Internet Explorer. "You find more proprietary approaches in the corporate environment because they control which browser they're using," says Philippe Le Hegaret, interaction domain lead at the W3C. For example, ActiveX controls, which work only on Windows and are supported only in Internet Explorer, are more common on internal-facing Web sites.

Because IT can control which browser is used, organizations can protect themselves in the short term from the move to a standards-based Web. Over time, however, Web developers will stop building customized style sheets for the quirks of IE, because it's too expensive. "If your Web site has to work with IE6, you have to add 20% to 30% in development time," says Web developer Peter-Paul Koch. He predicts that developers will start dropping support for IE6's quirks within the next 12 to 18 months.

By making IE8 standards-compliant by default, Microsoft is putting its corporate customers on notice that it's serious about standards. The broader community of Web developers is "suddenly more important than corporate developers," says Koch. "That's something I never expected to see."

Jeffrey Zeldman, executive creative director at Web development firm Happy Cog Studios, says if you're not on the standards bandwagon, it's time to jump on board. "Your Web sites will load faster, on more browsers and devices, reaching more people at a lower cost," he says. "You'll spend more time iterating new features and coming up with new designs and content ideas, and less time just getting the damned thing to work."

– ROBERT L. MITCHELL

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Fortunately, there are known workarounds for the event-handling issue, and it doesn't come up often, says Koch.

Although other Web browsers' problems pale in comparison to IE's, Firefox, Safari, Opera and Google's Chrome face their share of issues.

For example, bugs in implementations and differences in how standards are interpreted have created problems for Opera, says Bruce Lawson, Web evangelist at Opera Software. He points out that Opera had to resort to adding JavaScript-based hacks to work around the compatibility layer in Web sites that had been developed with Firefox-specific properties.

"In some cases, we supported the IE technology that the compatibility [layer] worked around but didn't support the Mozilla properties, so we had to force the site to give us the original IE code for that functionality," Lawson says. "This is clearly not the best way to develop cross-browser Web sites."

No browser is 100% compliant with standards, says Meyer. "But they're much, much closer than they used to be."

Improved Web-development tools make it easier to create compliant sites. "Tools like Dreamweaver have made tremendous strides in standards support," says Derek Featherstone, group lead for the Web Standards Project.

But Web authoring tools are just one piece of the puzzle. Other means of generating Web content, such as Microsoft Word's ability to save a document as a Web page and the default page template used by many content management systems, aren't always up to snuff.

"You have many automated tools — wikis, content management systems — that produce millions of pages every day. We need to make sure all of those tools provide valid markup," says Philippe Le Hegaret, interaction domain lead at the W3C.

INNOVATIONS

As they did in the bad old days of the browser wars, vendors still develop and include new features in their browsers that aren't yet standards — and it may not always be clear to developers that what they're embedding in their Web sites could change. In some cases, features are added to browsers and then submitted as possible standards later — a process that forces developers who implement those technologies to rework their Web sites as the specifications evolve.

For example, Apple released its Canvas design element in Safari for developers to play with and then later offered the Canvas element to W3C as a possible CSS module. The idea has been accepted, but the first working draft has yet to be created.

> **"Microsoft deliberately ignored the standard."**
> PETER-PAUL KOCH, WEB DEVELOPER

For its part, IE8 will include a new W3C specification called Access Control that handles cross-domain requests. But Microsoft also created XDomainRequest (XDR), a cross-domain request object that is at odds with a similar effort involving the W3C's Access Control for Cross-Site Requests draft specification.

Wilson says developers can allow the use of both objects by writing code that switches between objects as needed.

Do such developments foreshadow a return to the browser wars? "If one of the teams starts ignoring that hard-won wisdom, we could be back where we were before," Meyer says.

Overall, he thinks that Microsoft and other vendors are more cautious than they used to be about getting too far ahead of the curve. "To a large degree, the browser vendors have learned their lesson," he says.

While most of the Web code out there still isn't fully standards-compliant, most major Web sites are much better than they used to be. About 95% of Web sites still aren't fully compliant with every aspect of W3C standards, but in most cases, the problems are trivial to the end-user experience and tend to be the result of a developer forgetting, say, "an escape [code], or ampersand," says Le Hegaret.

"There are developers who are unwilling or unable to follow the specifications, there are gaps in the specifications that allow vendor-specific technology to take off, and there are parts of the existing specs that have not been implemented by all major browsers," says Lawson. But, he adds, "I think the situation is improving."

Developing Web standards is an ongoing process in which the goal posts keep moving all the time. They will never be perfect, nor will the Web pages that follow them, even when those pages are created by standards-aware professionals with the best of intentions.

For all of the recent gains, the open Web is still very much a work in progress, but that's a good thing, according to Meyer. "The only time you don't have issues to be resolved," he says, "is when a system is closed and dead." ■

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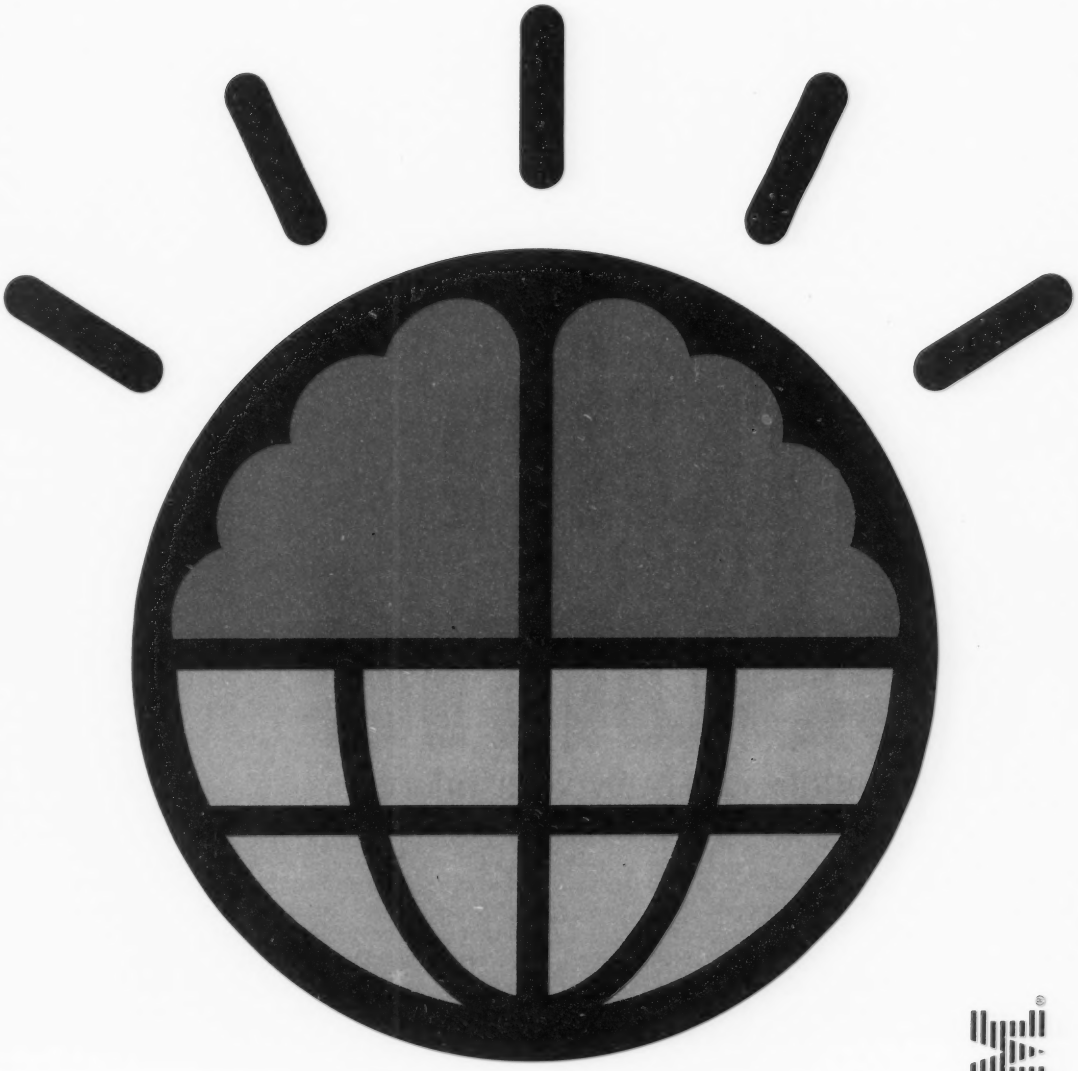

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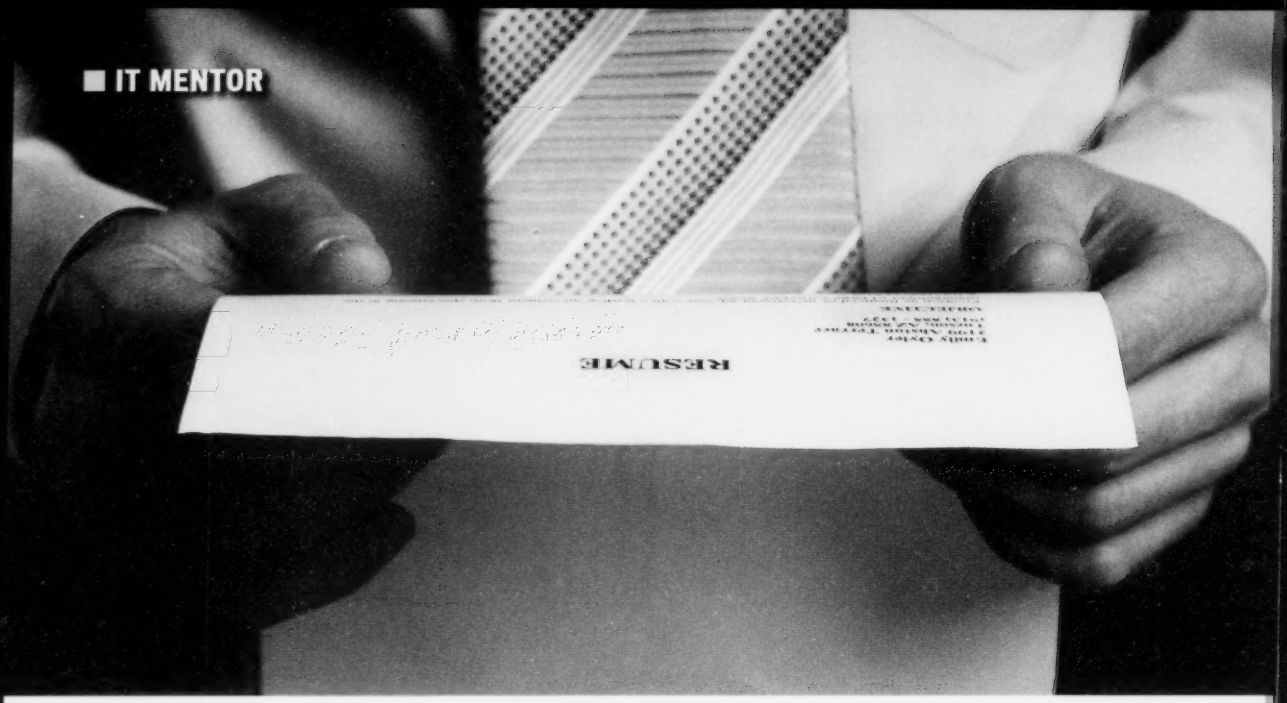

SIX WAYS TO Ruin YOUR Résumé

Bad techniques can bury your talent.

By Greg Schaffer

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MY VISION IS blurry. I've reviewed more than 40 résumés for a network administrator position, and less than half have made the cut. Although I rejected some candidates because of their lack of experience (or, rather, their lack of demonstrated required experience), others had errors in their application packages that lowered their ranking — errors that could have been easily corrected.

Of course, the traditional job-seeking advice still applies. Always follow résumé best practices — proper spelling, good organization, consistent font and so on. Realize, too, that if you simply don't meet the required minimum experience, it's very unlikely that you'll get the job. Beyond that, if you avoid these all-too-common mistakes that can be found in résumés for all kinds of IT positions, you'll boost your chance of landing the job.

MISTAKE 1: YOUR OBJECTIVE IS UNCLEAR

When I review résumés for a network administrator position, if the applicant chooses to include a section about his objectives, I hope to see something related to networking. Likewise, managers filling spots for security, databases, Web development and other specialties are looking for specific skills that show a candidate is a good fit. However, I often see vague statements such as, "I'm seeking an interesting and challenging career position." This conveys very little.

Instead, something directly related to the position you're seeking would be appropriate. Suppose, for example, that you applied for a network administrator job at a community college. "To use my experience to expand and maintain the network to enhance the mission of the college" says that you see this as a challenge and that you understand the business of the place to which you are applying.

This leads to two subpoints. First, whenever possible, show that you understand how technology affects the business. Second, decide if an objective is really necessary. Some people

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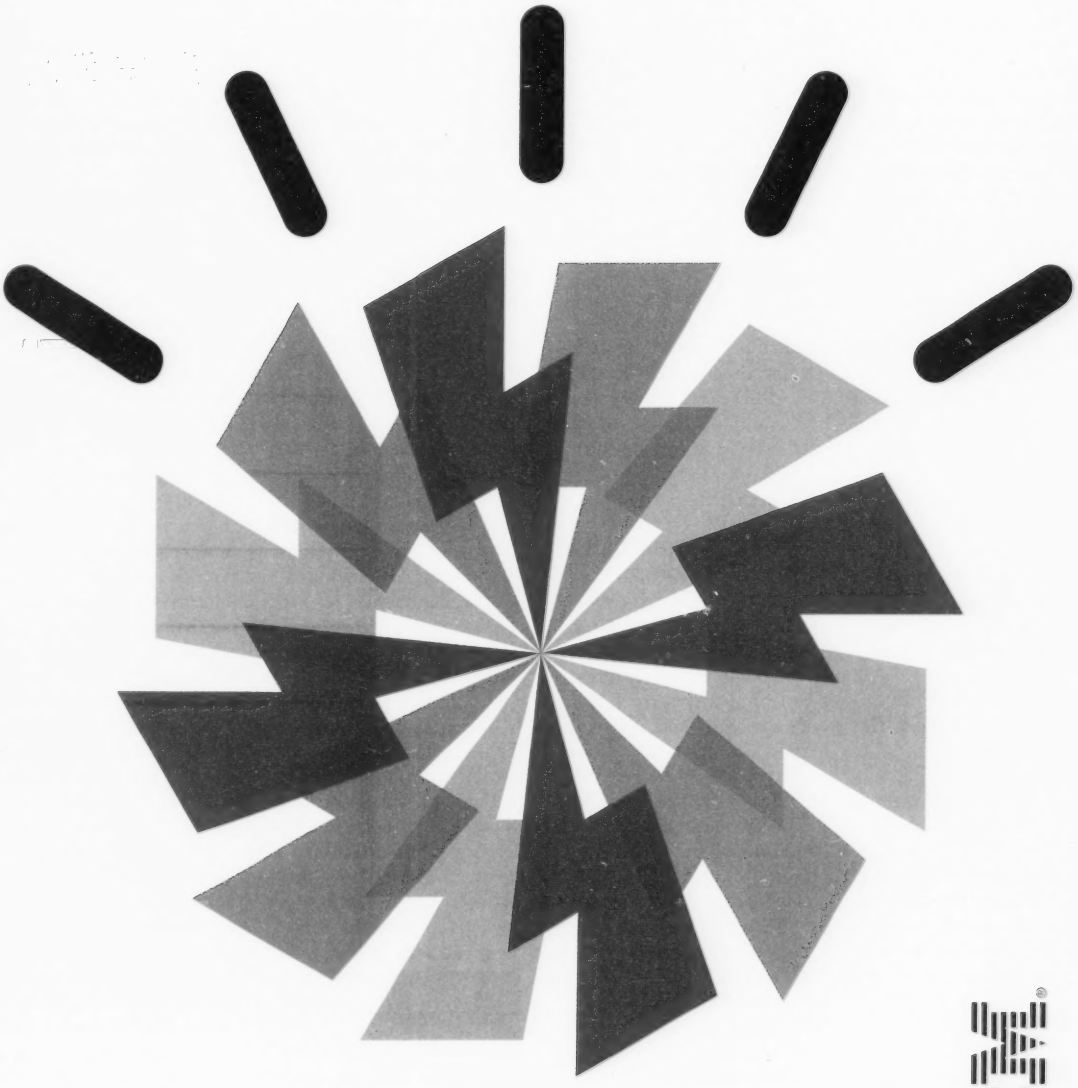

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substitute a short paragraph that encapsulates their goals, their understanding of the business and their skills.

MISTAKE 2: YOU'VE LISTED OLD SKILLS

I'd like to say it has been some time since I've received a résumé that listed in a skills section "Windows 3.11 for Workgroups," but unfortunately it hasn't.

I'm not trying to downplay achievements from over 10 years ago; I was a Novell 3.12 CNE. But how relevant are those skills today? Including them on a résumé gives the impression of trying to fill the application with fluff.

When I look at a skills section, I am trying to directly correlate the candidate's skills with what I need. Of course, some network skills that don't change much over time can be listed. If, for example, the ad calls for Dynamic Host Configuration Protocol administration experience and you managed DHCP 10 years ago, by all means put it in the skills section. It's the technology no longer in use that should be left behind.

MISTAKE 3: YOU'VE CREATED AN ACRONYM EXPLOSION

What is one thing that unites all aspects of information technology? Acronyms. For example, IT workers are often guilty of creating AERs (acronym-enhanced résumés).

A seemingly endless stream of acronyms is like data padding in an ICMP packet; it only adds space. If you indicate experience configuring enterprise core LAN routers, I would expect that you understand TCP/IP, SNMP, TFTP, VLSM, VLAN, possibly NTP and VPN, and at least one routing protocol such as OSPF or RIP. There is no need to list them.

If you mention a specific acronym or protocol, be prepared to back it up. I like to ask applicants to describe the differences between TCP and UDP. If you've put TCP/IP anywhere on the résumé, you'd better get the answer right.

MISTAKE 4: YOU MISUSE INDUSTRY JARGON

Avoid using a term or statement that could have the unintended effect of conveying a lack of experience. It may be technically correct, but it's seen only in textbooks and study materials and isn't used in the real world.

My favorite example of this is "Worked on networks with a star topology." I don't recall ever asking a vendor about its star-topology products. We both know that a switch is a device that distributes connectivity physically and logically from a single location. Including such phrases tells me that you don't have actual, significant experience working on enterprise networks.

And don't use buzzwords if you don't know what they mean. If you say you work with both single-mode and multimode fiber, be prepared to explain the differences between, and the uses of, each.

MISTAKE 5: YOU'RE UNCLEAR WHAT JOB YOU'RE APPLYING FOR

Some IT professionals have a narrow definition of what a network administrator does: works on Layer 2 and up enterprise transport equipment — in other words, switches and routers. Also included may be ancillary duties such as DNS and DHCP administration or firewall configuration and support.

Others, however, define "network administrator" to include server and systems administration. This would include one who works on the endpoints of a client/server network. In these cases, administration of the network may not be as vital, perhaps because the company has a simple network.

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Whatever the position, the point is to look beyond the title of the job you're interested in, determine what the employer is really looking for and apply for that specific job.

MISTAKE 6: YOU'RE VAGUE ABOUT YOUR EXPERIENCE, OR YOU'RE JUST DOWNRIGHT CONFUSING

Statements such as "Worked closely with the network team," "Assisted in network installation" or "Supported networks" convey nothing about relevant network experience. I work closely with my tax adviser; does that make me an accountant? You need to clarify relevant experience.

Also, if you're applying for an enterprise position, be sure you meet the experience required. If a position calls for experience with administering enterprise routers, don't assume that setting up Linksys routers means you're qualified. All that does is convey that you don't understand the difference between SOHO and enterprise networking.

Finally, and this may seem obvious, describe your experience for each position you list, even if it means some repetition. Otherwise, it's difficult to determine the years of experience in, say, configuring routers. I reviewed one résumé in which the candidate described all of his skills first, then simply listed his position titles and dates of employment afterward. Since I couldn't match duty with position, I couldn't calculate number of years of experience in each area. The résumé ended up in the reject stack. ■

Schaffer *has more than 20 years of experience in networking. Contact him at newtnoise@comcast.net.*

Speak TO YOUR Audience

Your résumé should be directed to a technology professional.

Yes, human resources may review the application as well, but ultimately the position's supervisor (and most probably peers) will choose whom to interview. Your résumé should talk to them.

Remember that your goal is to get your foot in the door for a face-to-face interview. If you're applying to be a network administrator, have a fellow network administrator or two review your application, and ask for their impressions from a peer perspective. Does it convey that you know networking? If the answer is yes, you're well on your way to landing that job.

– GREG SCHAFFER

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and 1 trillion connected objects on the Web.
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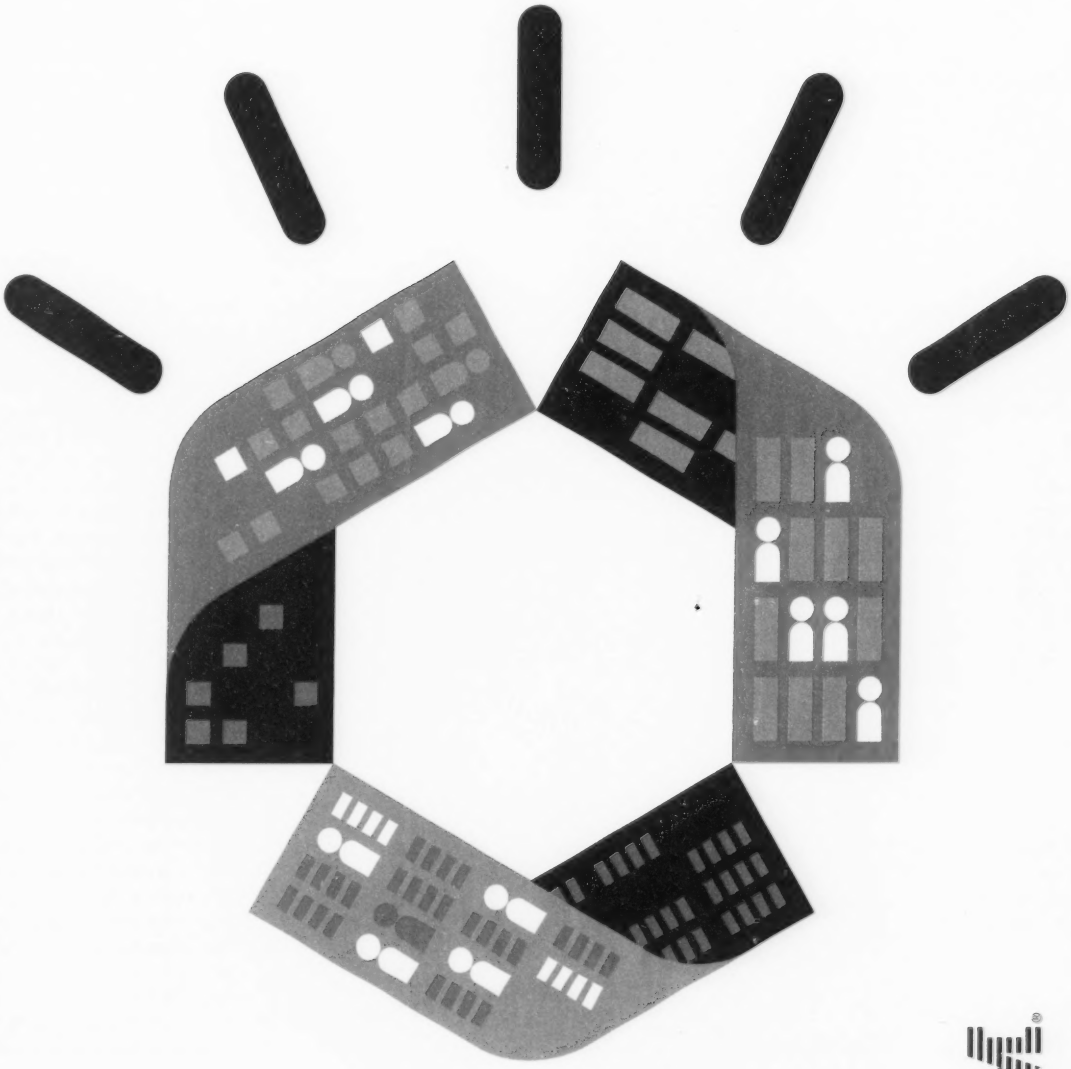

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How to Get Fired

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Five fatal flaws that can bring down the ax.

By Mary K. Pratt

A PLUNGING stock market, crumbling budgets, layoffs and restructurings: So much of today's news is bad, so much of it can adversely affect your career, and so much of it is maddeningly beyond your control.

But there are things you can control, starting with your own behavior. Now more than ever, it's essential to ensure that idiosyncrasies and personal peccadillos don't undermine your career.

Here are five cautionary tales of real CIOs whose tragic flaws did them in.

THE TOXIC TEMPER

One CIO got everybody's attention during a meeting with fellow executives. When colleagues asked him about an attempted process improvement that didn't meet their expectations, he threw an object across the conference table and stormed out. Unfortunately for him, that was not an isolated incident. The CIO was also known to have fired workers on the spot when he was upset, says Bonni Carson DiMatteo, president of Atlantic Consultants Inc. in Wellesley, Mass., who recounted the tale.

Oddly enough, outside

Continued on page 32

SNW SNIA COMPUTERWORLD

Best Practices IN STORAGE

AWARDS PROGRAM

Congratulations Award Recipients!

SNW proudly presents the following recipients selected as the SNW "Best Practices in Storage" Awards Program Honorees for spring 2009. This program honors IT user "best practice" case studies selected from a field of qualified finalists.

Honoree Award Recipients in each of the following categories were recognized:

Innovation and Promise

Activision Publishing, Inc., Santa Monica, California

Finalists:
- Argus Information & Advisory Systems, White Plains, New York
- Cigna - Health Insurance, Windsor, Connecticut

Planning, Designing and Building a Strategic Storage Infrastructure

Applied Materials Corp, Austin, Texas

Finalists:
- Cancer Treatment Centers of America, Schaumburg, Illinois
- City of Altamonte Springs, Altamonte Springs, Florida

ROI and Best Practices in Green Computing and the Data Center

Burt's Bees, Morrisville, North Carolina

Finalists:
- ROEL Construction, San Diego, California
- San Diego Data Processing Center (SDDPC), San Diego, California

Selecting and Deploying Storage Networks

City of Altamonte Springs, Altamonte Springs, Florida

Finalists:
- LSI Corporation, Milpitas, California
- Penson Financial Services, Dallas, Texas

Storage Reliability and Data Recovery

State of Michigan, Department of Information Technology, Lansing, Michigan

Finalists:
- Herbalife, Los Angeles, California
- Infosys Technologies Limited, Bangalore, Karnataka

Thank you to our "Best Practices in Storage" Judges for SNW Spring 2009:

- Rick Bauer, SNIA
- Julia King, Computerworld
- Ellen Lary, Lary.com
- Richie Lary, Lary.com
- Lucas Mearian, Computerworld
- Ron Milton, Computerworld
- Mark O'Gara, Highmark, Inc.
- Chris Saneda, Virginia Credit Union
- Mark Showers, Advisory Services, Inc
- Jim Swartz, Sybase, Inc.
- Don Tennant, Computerworld
- John Webster, Illuminata, Inc.
- Ben Woo, IDC

Program Judges' Criteria

Judges evaluated and ranked the finalists in each category according to their substantiated storage networking solution attributes and achievements against a set of criteria such as:

- Financial return and measurable payback (returns on investment, assets, resources) through created/protected revenue opportunities or cost savings.
- Strategic importance to the business.
- Substantive customer impact (service, retention, acquisition).
- Positive impact on other business/organization units.
- Addresses system and department interoperability issues and heterogeneous platform integration challenges.
- Provides a strategic advantage to the business/organization while anticipating and accommodating the deployment of future storage networking solution initiatives.
- Supports the efficient and reliable data, information and application sharing/access between personnel, departments, divisions, etc.
- Addresses challenges of data, information and application security, recovery, business continuity, etc.

The SNW "Best Practices in Storage" Award Recipients were honored on Tuesday, April 7th

Spotting Trouble

Everyone has flaws, but some are more problematic in the workplace than others. Unfortunately, most people have a hard time recognizing their own trouble spots. Watch for these signs that could indicate that co-workers have a problem with you:

- Meetings happen without you.
- Your feedback and input are not sought or are ignored.
- You're not included in strategic planning.
- Your department suffers from high turnover, and you have a particularly hard time keeping top-tier talent.
- People work around you. Your business-side peers seek out others in IT to handle their problems, while your staffers seek out other IT leaders or even go over your head.
- You don't hear bad news directly from those who should be delivering it. (It could indicate that you're not good at taking criticism or handling problems.)

SOURCES: BONNI CARSON DIMATTEO, PRESIDENT, ATLANTIC CONSULTANTS INC.; NAOMI KARTEN, PRINCIPAL, KARTEN ASSOCIATES; BETH ARMKNECHT MILLER, EXECUTIVE COACH, EXECUTIVE VELOCITY INC.; EILEEN STRIDER, PRESIDENT, STRIDER & CLINE INC.

Continued from page 30

the workplace, the CIO had a reputation for good deeds and community service, and this saved his job for a while as colleagues tried to encourage him to show his good side at work. The human resources department offered him coaching as well anger management to help him learn to cope better.

"There were meetings between him and the HR director, where it was made clear that these behaviors weren't acceptable and that he needed to do something about it," DiMatteo says.

It almost worked. The CIO would mend his ways and tone it down for two or three months, "and then there would be another explosion," she says.

Finally, a peer criticized the CIO's budget. He blew up, stormed out and didn't come back to work for a few days. That's when the ax fell.

> **"[One CIO] was just very confident in his own decision-making, and it was too much trouble to work through it with people who had opinions that were different than his.**
>
> EILEEN STRIDER, PRESIDENT, STRIDER & CLINE INC.

HUBRIS

A large Midwestern company was having trouble with an ERP implementation and brought in Eileen Strider, a former CIO who is now president of consulting firm Strider & Cline Inc. in Kansas City, Mo., to assess the situation. It didn't take her long to realize that the CIO overseeing the project was a big part of the problem.

"I kept hearing about the CIO — that he does whatever he wants," she says.

But initially, this CIO had put up a good front. He had assembled a steering committee to gather input from others throughout the organization, Strider says. Those peers were eager to be heard, and at first they thought that was the plan. However, as the project moved forward, they realized that the CIO was disregarding all ideas except his own.

"He was just very confident in his own decision-making, and it was too much trouble to work through it with people who had opinions that were different than his," Strider says. "He was sure he was right."

His actions had contributed to the problems surrounding the implementation, Strider says, and they resulted in a breakdown of trust between him and his peers.

When Strider presented her findings to the CIO and other executives, he was surprised. But apparently he was too proud to change. He announced his retirement the next day.

INERTIA

Sometimes making the wrong decision doesn't get you fired; it's the inability to make any decision at all. So says John Stevenson, a former CIO who is now president of JG Stevenson Associates LLC in Plano, Texas.

He tells the story of two IT executives at different consumer products companies. One company had a shoestring IT budget; the other had plenty of cash. As a result, one exec didn't have to make any big decisions because his was a keep-the-lights-on assignment. The other didn't have many big decisions because his budget

Damage Control

Recognizing that you have a personality problem that could derail your career is the first step. Here's what to do next:

- **Identify any triggers that draw out the worst of your personality, and do your best to avoid them.**
- **Find an internal mentor or hire an external coach to help you change your behavior.**
- **Communicate your plans with key colleagues so they know that you are trying to improve.**
- **Ask key co-workers for feedback on your progress.**
- **Use assessment tools such as 360-degree evaluations to identify remaining problem areas and measure successes.**
- **Be patient. Changing your behavior takes time. Moreover, it takes even longer for others to accept that you really have changed.**

SOURCES: BONNI CARSON DIMATTEO, PRESIDENT, ATLANTIC CONSULTANTS INC.; NAOMI KARTEN, PRINCIPAL, KARTEN ASSOCIATES; BETH ARMKNECHT MILLER, EXECUTIVE COACH, EXECUTIVE VELOCITY INC.; EILEEN STRIDER, PRESIDENT, STRIDER & CLINE INC.

could support lots of different directions and projects.

But then the two companies merged and the IT leaders were both frozen in their past perspectives; neither could make decisions about what the merged IT operations should look like. "They couldn't come to grips with the decisions that had to be made," Stevenson says.

Frustration mounted among their colleagues, who were forced to make their own decisions about the company's future without the support of a coherent IT infrastructure.

Leaders at the merged company initially intended to retain the pair as executives in the new company, but ultimately, they dismissed both because of their indecisiveness and hired Stevenson as CIO of the merged organization.

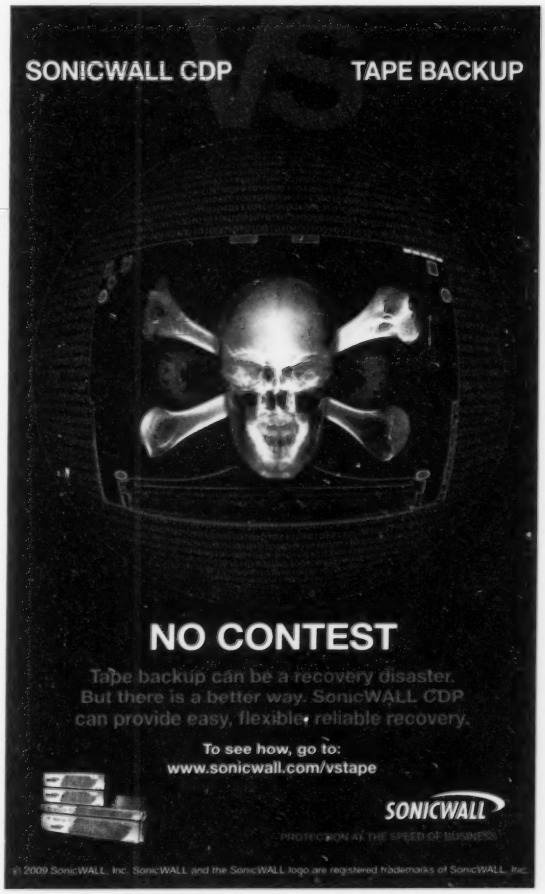
COMPLACENCY

It's easy to get comfortable when everything is humming along, but complacency can torpedo a CIO's career, says Dan Gingras, a partner in the IT leadership practice at Tatum LLC, an executive consulting and services firm in Atlanta.

He cites the case of one CIO who had worked for years at a large industrial manufacturing company that changed hands after more than 50 years under the same owner. The new owner replaced the CEO, the chief financial officer and the vice president of marketing and sales. The CIO was spared in part because he knew how to deal with all of the old systems.

But instead of understanding that change was afoot, the CIO continued down the same old path, missing opportunities to get in step with the new management.

> **"This CIO was a raving talkaholic. . . . He talked. He didn't listen.**
>
> **NAOMI KARTEN, PRINCIPAL, KARTEN ASSOCIATES**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"He became, in effect, an outsider, and no one likes an outsider," Gingras says.

Less than a year after the new ownership took over, the recalcitrant CIO lost his leadership post and moved into a customer service position.

Gingras points out that CIOs working with new management aren't the only ones likely to fall victim to complacency. He has seen other CIOs who were content to keep things humming and not push forward get canned, too.

"You always have to look constructively at what you can improve," Gingras says.

> **"You always have to look . . . at what you can improve.**
>
> **DAN GINGRAS, PARTNER IN THE IT LEADERSHIP PRACTICE, TATUM LLC**

VERBOSITY

Although most CIOs aren't known for having gregarious demeanors, Naomi Karten, principal at consulting firm Karten Associates in Randolph, Mass., remembers one who just couldn't stop talking.

"This CIO was a raving talkaholic," she says via e-mail.

The CIO was hired with the mandate to improve customer satisfaction, which had suffered in the past because of poor IT service, she explains. But while he was well-meaning and friendly — anyone could get him to open up and share details about himself and his family — his co-workers found his incessant chatter annoying.

"He talked. He didn't listen. People would emerge from meetings with him pantomiming ears in pain," Karten says.

His talkative nature also hurt his ability to give clear and concise directions, she says.

"His direct reports were confused about what he wanted of them, because in the process of talking nonstop, he changed his mind several times. He himself sometimes couldn't remember what instructions he'd given," Karten explains.

Co-workers and staff started to avoid him. Since his customers didn't want to talk to him, and his motormouth made him an ineffective manager, it became impossible for him to do his job effectively. Some coworkers warned him that his verbosity was hurting his business performance, but he didn't change and was finally dismissed. ■

Pratt *is a* Computerworld *contributing writer in Waltham, Mass. Contact her at marykpratt@verizon.net.*

Streamlining Project Approvals

Hard times and a **bare-bones staff** make it easier to see the merits of **a radical idea** for making sure new **projects are secure.**

Trouble Ticket

AT ISSUE: Drastic staff reductions have spread the security team thin.

ACTION PLAN: Don't discount any ideas that could help a smaller staff do all the things that used to be done with more people.

A REALLY great idea may be a matter of timing more than anything else. Take the one that the leader of our project management department approached me with last week.

His suggestion for how to handle security requirements for new projects would have struck me as unfeasible a year ago. Essentially, he argued that we could save everybody a lot of time if we documented all the security measures that my team might require before any new IT project could go live.

It's true that my team is swamped with project work, and we spend a good chunk of our time sitting in project meetings with representatives from lots of other IT departments, trying to understand the technical architecture and think of everything we would need to make the project reasonably secure.

Nonetheless, if not for recent events, I probably would have shrugged off this idea and clung to the belief that we need to fully understand what the business is trying to do before we can mandate how to do it securely.

What is different, of course, is that we have gone through a significant staff reduction, and both the IT department and my security team have been cut drastically. We have to do the best we can with the few people who are left. At the very least, this idea suggested one way to do that. And after further thought, I realized that it's also true that we have a set of fairly consistent security requirements for specific areas.

For example, if a project involves PII, or personally identifiable information, that invariably leads us to one security procedure: encryption. But we constantly find ourselves having to justify the need for encryption. If we can standardize our encryption requirements for PII, we may be able to cut some arguments short.

■ Tough times sometimes call for new ways of thinking, and they can also make you more open to suggestions.

We can start with the rules, standards and regulations that apply to personal data, move on to our internal security policies, and then say where and when encryption will be needed. Both file encryption and transport encryption can be covered by these requirements, depending on where and how the information is stored and where it is transmitted and received.

COVERING THE BASES

To make this into something that can be handed out to project managers as a general guideline, I'll have to think of all the possible combinations of data classifications, transport types and storage locations and detail what needs to be done in each case.

If a project involves confidential data sent over the Internet from a database to a Web browser, for example, the requirement would be to use database encryption plus SSL.

And I'm happy to report that coming up with a good set of general requirements has been easier than I expected. I've already completed security requirements for areas such as authentication, authorization, access control and system recovery, and the response from our project management department has been very positive.

It's beginning to look like this new approach will allow us to cover more territory than we would by sending a staff member to every project meeting and asking that person to think of everything on the fly.

Tough times sometimes call for new ways of thinking, and they can also make you more open to suggestions. Standardizing our security requirements should save time in project discussions and provide a more consistent and understandable foundation for project managers and IT staffers to work with us to make our technology implementations more secure. ■

This week's journal is written by a real security manager, **"J.F. Rice,"** *whose name and employer have been disguised for obvious reasons. Contact him at jf.rice@engineer.com.*

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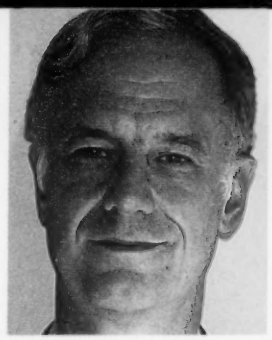
■ OPINION

Bart Perkins

No Easy Road to Industry Architecture



AN enterprise architecture is vital to business success, but it's time-consuming, expensive and complex to develop. Establishing an industrywide architecture is even more difficult. The hotel industry was the first to create an industry architecture (IA), through its Hotel Technology Next Generation (HTNG) consortium.

As I outlined in a previous column, standardization across the industry will facilitate data-sharing, streamline hotel processes, reduce costs and improve customer service. HTNG has recently approved the initial release of its IA for hotels and resorts.

Here are some of the challenges to be addressed:

The difficulty of securing buy-in. Achieving consensus for an IA is similar to getting European voters to ratify the EU constitution. Although no single company has veto power, companies will support the IA only if they believe it will further their own interests. Getting buy-in can be a lengthy process. It took HTNG more than three years to develop and approve the initial IA business-process model.

The need for extreme flexibility. An IA must support every reasonable business-process variation. But conflicting needs must be accommodated without making the final architecture too abstract to be useful. For example, some companies use monthly financial reporting; others use 13-period accounting. The only way to accommodate all accounting calendars is to standardize on daily financial reporting.

The lack of a tiebreaker mechanism. Getting even internal stakeholders to agree on business processes can be very difficult. One multinational company debated its expense account process for four months. Each division agreed that a common process made sense — as long as its preferred choice was adopted. The CFO had to break the gridlock and mandate a particular process.

An IA requires consensus among companies with very different business models, and an industry consortium can't mandate solutions.

■ Achieving consensus for an industry architecture is like getting European voters to ratify the EU constitution.

The lack of simplifying assumptions. Most enterprise architectures assume that certain business processes or legacy applications can't be changed. For simplicity, these processes are merely incorporated into the architecture fully intact. Such assumptions are almost impossible in an IA, and compromises must be reached. Even technology suppliers whose mega-products span multiple business processes may be forced to redefine product boundaries and interfaces.

A reliance on volunteers. Contributors to HTNG's industry architecture are volunteers who must juggle consortium efforts with their job responsibilities. HTNG had to ensure that the final architecture design wasn't overly influenced by the companies that supplied the most volunteers.

The enormous scope. An IA's stakeholders have widely differing business needs. Stakeholders' opinions regarding which business processes and systems are most important also differ widely. For example, hotel developers need design tools and project management systems. Hotel chains need systems to attract, serve and retain travelers. Technology companies support business models that require their own products. Moreover, many technology companies support multiple industries and resist constraints from a single vertical industry. An IA must address all stakeholders' business concerns.

Legal constraints. An IA can't favor specific products or stakeholders, and it must not violate restraint-of-trade guidelines.

As other industries consider building industry architectures, they can benefit from the experiences of the hotel industry. Be realistic about the challenges — developing an industry architecture is far more time-consuming and complex than building an enterprise architecture. But an IA is ultimately both practical and idealistic. Despite the obstacles that must be overcome, an industry architecture can provide the leverage to transform an entire industry. ■

Bart Perkins *is managing partner at Louisville, Ky.-based Leverage Partners Inc., which helps organizations invest well in IT. Contact him at BartPerkins@LeveragePartners.com.*

PAGE COMPILED BY JAMIE ECKLE

Career Watch

What Drives CIOs To Change Jobs?

A desire for a fresh challenge was the No. 1 response of 310 CIOs and other senior IT leaders who in a recent poll were asked why they would change jobs. Of course, in 2009, new challenges are likely to be had without changing jobs.

What is the most important factor in making a job-change decision?

A fresh challenge	29%
Greater involvement in business strategy	21%
Expanded decision-making opportunities	19%
Better work/life balance	12%
More money	10%

SOURCE: 4TH ANNUAL STRATEGIC INSIGHTS SURVEY OF IT LEADERS IN THE U.S., CONDUCTED FOR IT RECRUITER HARVEY NASH USA BY PA CONSULTING GROUP LTD., FEBRUARY 2009

BENEFITS

Change Is in the Air

Among companies offering health benefits, many are considering modifying them this year.

	VERY LIKELY	SOMEWHAT LIKELY	NOT TOO LIKELY	NOT AT ALL LIKELY	DON'T KNOW
Increase employee contribution	35%	37%	16%	11%	1%
Increase employee deductible	9%	31%	35%	24%	1%
Increase employee co-pay	7%	29%	40%	23%	1%
Increase employee share of drug costs	8%	29%	40%	22%	1%
Restrict eligibility for coverage	2%	4%	26%	67%	1%
Drop coverage entirely	<1%	<1%	4%	96%	<1%

SOURCE: KAISER FAMILY FOUNDATION 2008 EMPLOYER HEALTH BENEFITS SURVEY OF 1,192 COMPANIES WITH MORE THAN 200 EMPLOYEES. PERCENTAGES MAY NOT ADD UP TO 100 BECAUSE OF ROUNDING.

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PAMPER ME

Today, it's the oldest workers who are most interested in soft benefits.

	GEN Y	GEN X	BABY BOOMERS	MATURES	GEN Y IN 2006
Satisfying work	59%	65%	71%	81%	80%
Pleasant work environment	57%	69%	70%	82%	85%
Liking the people they work with	57%	65%	62%	70%	74%
Challenging work	42%	52%	59%	71%	59%
Flexible hours	44%	48%	51%	46%	55%

Talking About Your Generation

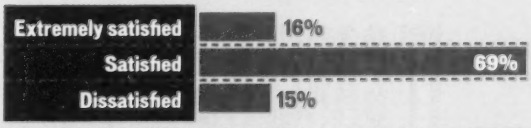
The greatest problem for the workforce may be the failure of different generations to talk to one another.

In an online survey by employment services provider Randstad USA, 51% of baby boomers (born between 1946 and 1964, according to this survey) and 66% of the generation that preceded the boomers reported having little to no interaction with colleagues from Generation Y (born between 1980 and 1988). No contact, no knowledge transfer. And with the baby-boom generation regarded as the storehouse of most institutional knowledge, Randstad concludes that U.S. businesses risk a shortage of skilled labor, not because of a dearth of manpower in the wake of baby boomers' retirements, but because of a limited transfer of that knowledge. After all, as Randstad points out, members of Gen Y in the workforce currently outnumber still-working baby boomers, 79.8 million to 78.5 million. Randstad urges businesses to foster more collaboration among their workers, something that may require tearing down perceptions of basic differences among the various generations.

One perception that the survey helps modify is the long-standing one that Gen Y workers are more likely than older workers to want their workplaces to provide them with things like satisfying work and pleasant co-workers. Just a few years ago, that was decidedly true, but in this new survey, Gen Y attitudes have changed considerably (see chart). In fact, Gen Y'ers are now much less likely than their older colleagues to seek those soft benefits.

CIOs Happy With Their Pay

The vast majority of 310 CIOs and other senior IT executives who responded to a recent survey said they are satisfied with their compensation, with many fewer saying they are extremely satisfied or dissatisfied.



SOURCE: 4TH ANNUAL STRATEGIC INSIGHTS SURVEY OF IT LEADERS IN THE U.S., CONDUCTED FOR IT RECRUITER HARVEY NASH USA BY PA CONSULTING GROUP LTD., FEBRUARY 2009

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Cold Comfort

A contractor is working to replace this office's outdated ventilation system, reports a pilot fish there. "The other day, one of the contractors forgot to turn the boiler back on after they were working on it," fish says. "Needless to say, the next morning a large portion of the office was cold – about 55 degrees. We were warm in IT, so we really didn't think too much about it until the building UPS started beeping madly." Fish has a good idea of what's causing the overload, and he immediately dispatches every tech he can find to deal with the problem. But before any of the techs get halfway down the hall, the circuit breaker trips, shutting down all desktop PCs. Turns out that, because the heat has been off and on, users have brought in their own electric space heaters and – despite clear instructions not to – have plugged them into the PC power strips because they're easier to reach than the higher-wattage outlets. "We didn't have to seize the heaters from the users," says fish. "Their managers took them and would not give them back until the end of the day. The building finally got to about 68 degrees at about lunchtime; the users had to wear their coats all morning."

Oops!

It's a sizzling summer at this retailer, and in the heat the company's main server has failed for the second time in a month. "CEO is rather upset and calls IT consultant and demands immediate action," says a pilot fish on the scene. The consultant reminds the CEO that he had proposed investing in some cooling for the server room the year before, but it was deemed unnecessary. "CEO promptly agrees to the investment," says fish. "IT consultant works out the details with a local contractor for air conditioning, and two days later the contractor calls and reports that all work has been done as agreed. Three days later, main and secondary servers fail completely, downing all IT in the company. IT consultant gets called in immediately, only to find out that the air conditioning intake has been installed just above the server rack – making condensed water drip down in a steady flow into the servers. They both had to be replaced entirely."

Not How It Works

This company's main plant is in the frozen north, while another plant is in a locale where it's rarely cold enough for snow. "The two plants connect to the mainframe via WAN but have their own Internet connections for everyday use," says a pilot fish in the ice belt. "The weather forecast here was for an ice storm, and I received a call from a user at the other plant: 'I hear you're having an ice storm. Is your ice storm the reason why we can't connect to the Internet?' "

■ *You can connect to Sharky at sharky@computerworld.com. Send me your true tale of IT life, and you'll snag a snazzy Shark shirt if I use it.*

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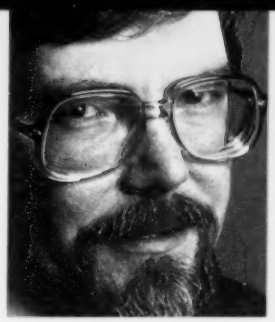
■ FRANKLY SPEAKING

Frank Hayes

Just Pennies a Day



FIFTY CENTS. That's how much U.S. businesses could save by shutting down all their PCs at night and on weekends, according to a study released last month by the Alliance to Save Energy. Of course, that's not how the report headlined it. The alliance's number was $2.8 billion per year.

That's the sort of thing that gives "green IT" a bad name.

See, that $2.8 billion is how much the group estimates would be saved in energy costs each year by shutting down 108 million PCs when they're not being used. Those numbers may be accurate, but do the math: That's $26 per PC per year, or 50 cents a week.

In other words, this energy savings is trivial. It's a rounding error. It's less than the cost of two minutes of a typical employee's time each week, well under 30 seconds per day. That means it really is cheaper to leave a Windows PC on all night than to spend the few seconds to press Ctrl-Alt-Del and type in a password — never mind the several minutes for the PC to go from cold start to usability.

And that doesn't begin to factor in the cost of blocking the IT department's after-hours remote maintenance and patches.

Is it good to save that little bit of electricity? Sure. But for most companies, it's not nearly enough to justify the cost and effort. And trumpeting that $2.8 billion number as if it's meaningful is, well, an embarrassment.

Look, technology *does* burn a lot of electricity. But let's stop pretending that if corporate IT tweaks this or adjusts that, we've got a green-IT solution. We're slapping Band-Aids on problems created by vendors that don't make energy efficiency a priority.

And that doesn't just mean using fancy new technologies such as digital paper for displays or self-throttling CPUs.

■ We're slapping Band-Aids on problems created by vendors that don't make energy efficiency a priority.

Consider power adapters, those ubiquitous bricks and wall warts that turn wall current into usable power for laptops, mobile phones and other battery-operated devices. They're *always on*, even when they're not actually delivering power. Today, the only way to shut most of them down is to unplug them — and what user is likely to do that?

Why do vendors use such power-hungry adapters? Because they're cheap and simple.

The infuriating thing is, it wouldn't take a lot of expensive smart circuitry to make those adapters much less wasteful. Just adding an extra pair of wires and a switch to the device end of the power cable would do it. Then for the 98% of the time that, say, a phone *isn't* charging, the adapter could stop drawing juice.

Faster PC boots would help, too. That's an operating system problem, and one that should be Microsoft's greatest shame. A locked-down Windows PC should be able to boot in seconds — if there's nothing new for the operating system to discover, why should initialization take so long? A tuned version of Linux can come up in seconds on a PC that takes minutes to load Windows. Why must Windows waste power and murder user productivity at the same time?

Heck, even a PC sleep mode that actually works would encourage users to save power. Trouble is, most users have had terrible experiences with PCs that can't wake up from sleep mode. Until PC vendors demonstrate a sleep mode that works really well, users won't trust it.

How much electricity and money would we save if hardware and software vendors took green IT seriously, even with small measures such as these? That's hard to calculate.

But that's the kind of green IT that *would* save energy — and without costing us more than it's worth. ■

Frank Hayes *is* Computerworld*'s senior news columnist. Contact him at frank_hayes@computerworld.com.*

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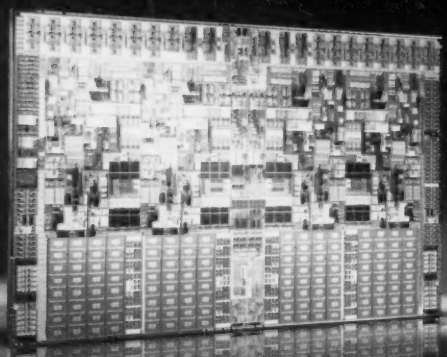

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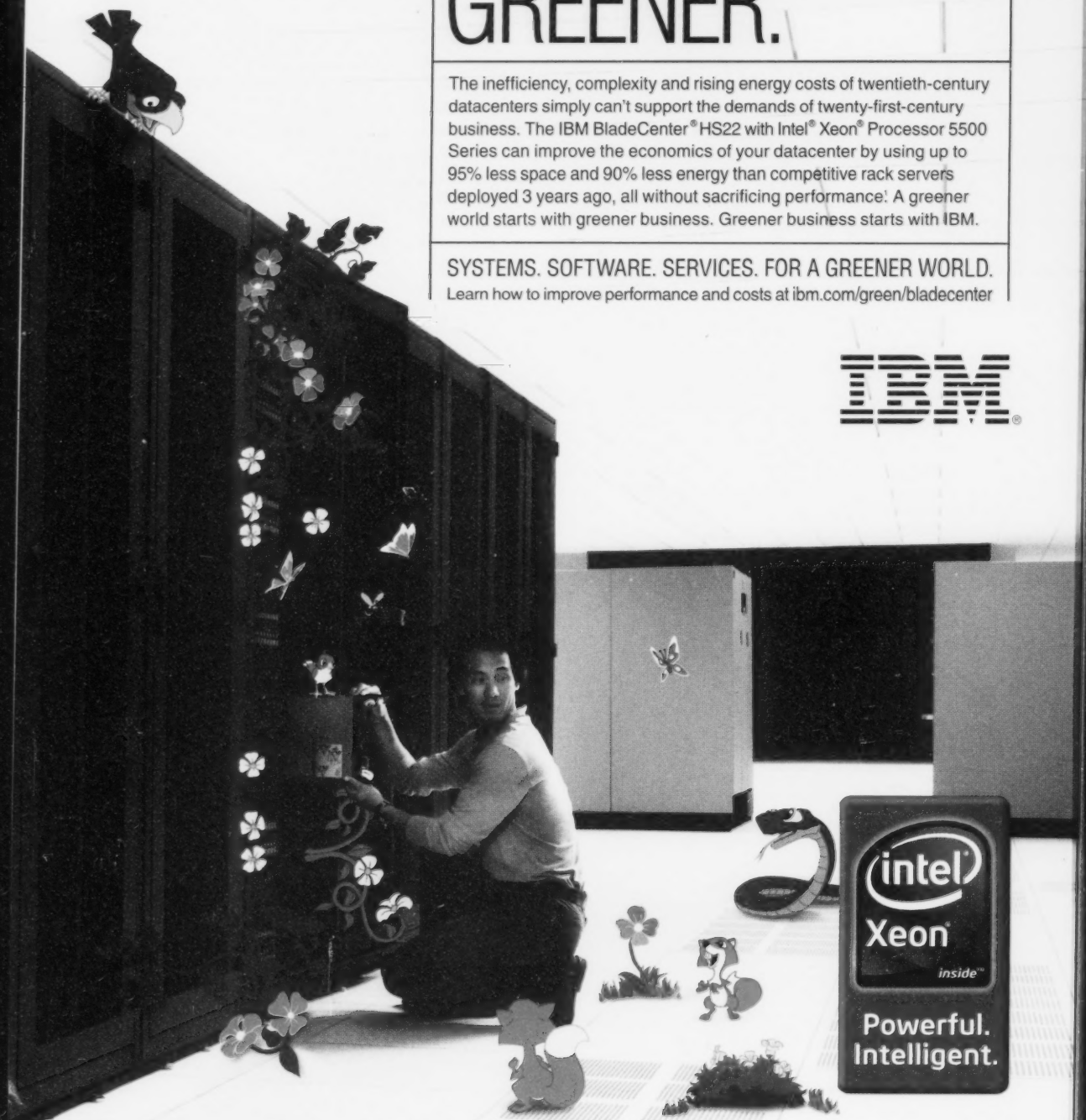
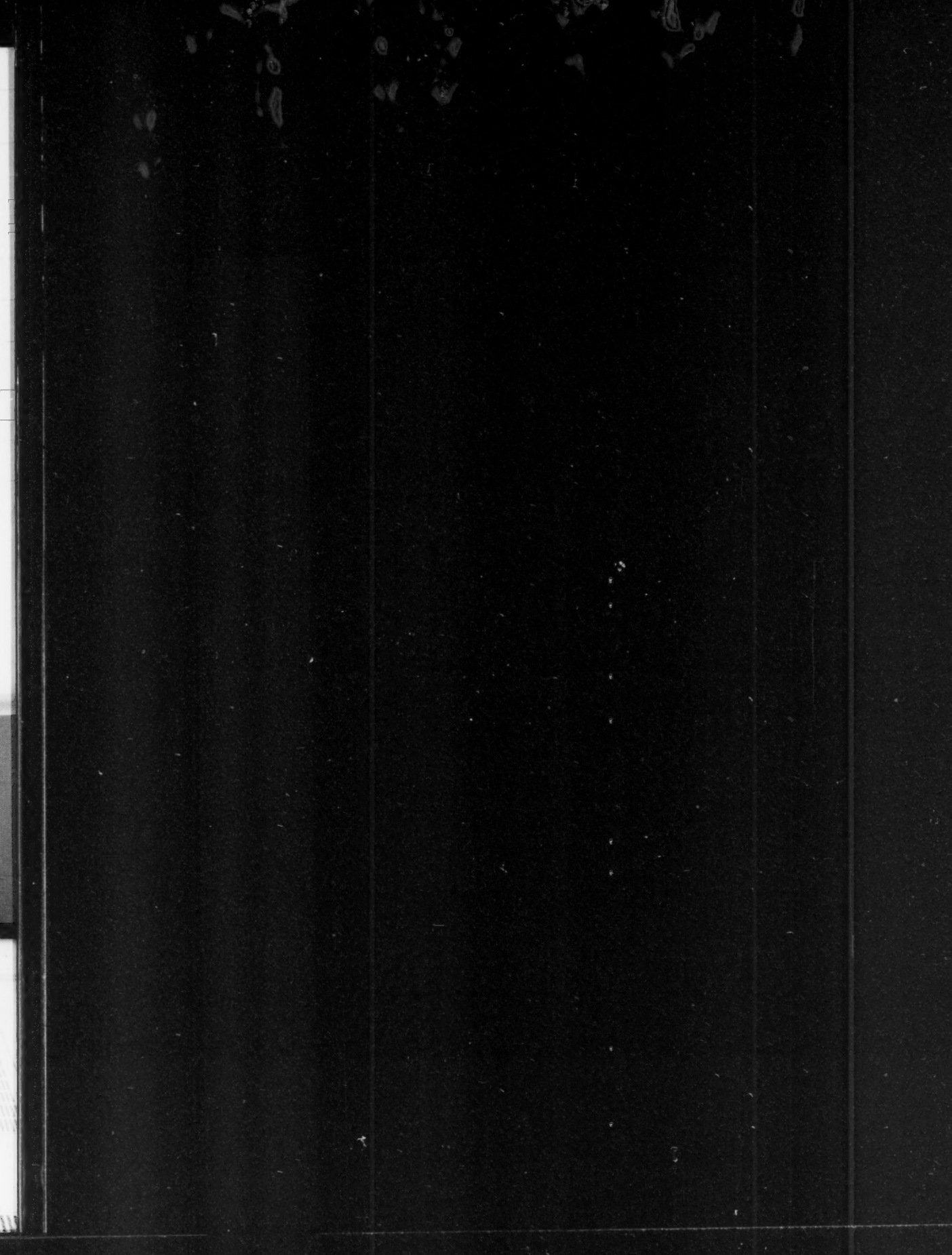
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